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1985-1986 Bulletin

The University of Dayton Bulletin

August 1985
Undergraduate Issue

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The University of Dayton Bulletin includes the Graduate Issue, Summer Session Issue, Fall Session Issue, School of Law Issue, and Undergraduate Issue.

The provisions of the various issues of this Bulletin are to be considered directive in character and not as an irrevocable contract between the student and the University. The University reserves the right to make any changes that seem necessary or desirable.

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Reservation of the Right to Modify

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1985-86 ACADEMIC CALENDAR

FIRST TERM

Sun.-Tue., Aug. 25-27	New Student Orientation
Tue., Aug. 27	Last day to complete registration
Tue.-Thu., Aug. 27-29	Stamped #2 forms available for pickup between 9:00 a.m. and 4:00 p.m. in O'Reilly Hall for full-time students
Wed., Aug. 28	Classes begin at 8:00 a.m.
Mon., Sep. 2	Labor Day—no classes
Wed., Sep. 4	Last day for late registration, change of grading options and schedules, change of third-term and second-session grades
Fri., Sep. 13	General Faculty Meeting, 3:00 p.m.
Wed., Sep. 18	Last day to withdraw without record
Tue., Oct. 1	Last day to submit candidacy for graduation in December
Sat., Oct. 5	Parents' Weekend
Mon., Oct. 14	Columbus Day—no day or evening classes except those held only once weekly at 4:30 p.m. and after
Thu., Oct. 17	Freshman mid-term progress grades due in Registrar's Office
Sat., Oct. 19	Parents' Weekend
Sat., Oct. 26	Homecoming
Fri., Nov. 1	All Saints' Day—no day or evening classes except those held only once weekly at 4:30 p.m. and after
Sat., Nov. 9	Parents' Weekend
Fri., Nov. 15	Last day to withdraw with record of W
Wed., Nov. 27	Thanksgiving recess begins after last evening class
Sat., Nov. 30	Graduate Saturday classes meet
Mon., Dec. 2	All classes resume
Sun., Dec. 8	Feast of the Immaculate Conception—Christmas on Campus
Wed., Dec. 11	Last day of classes
Thu., Dec. 12	Examinations begin at noon
Sat., Dec. 14	Examinations for ENG 111 and for Saturday classes
Wed., Dec. 18	First term ends after last examination; senior grades due
Fri., Dec. 20	Grades due in Registrar's Office at 9:00 a.m.; deficiency slips due in deans' offices
Sat., Dec. 21	Diploma exercises
Mon., Jan. 27	Last day to change first-term grades

SECOND TERM

Fri., Jan. 3	Last day to complete registration
Sun.-Tue., Jan. 5-7	Stamped #2 forms available for pickup between 9:00 a.m. and 4:00 p.m. in O'Reilly Hall for full-time students
Mon., Jan. 6	Classes begin at 8:00 a.m.
Wed., Jan. 15	Last day for late registration, change of grading options and schedules
Mon., Jan. 20	Martin Luther King Day—Faculty Workshop—no day or evening classes except those held only once weekly at 4:30 p.m. and after
Tue., Jan. 21	Last day to change first-term grades
Mon., Jan. 27	Last day to withdraw without record
Fri., Feb. 7	Last day to submit candidacy for graduation in April
Mon., Feb. 17	Lincoln-Washington Day—no day or evening classes except those held only once weekly at 4:30 p.m. and after
Tue., Feb. 18	Midterm break—no day or evening classes except those held only once weekly at 4:30 p.m. and after
Fri., Feb. 28	Freshman mid-term progress grades due in Registrar's Office
Wed., Mar. 26	Last day to withdraw with record of W

Thu.-Sun., Mar. 27-30	Easter recess; Thursday evening and Saturday morning MBA classes meet
Mon., Mar. 31	Classes resume at 8:00 a.m.
Fri., Apr. 11	General Faculty Meeting 3:00 p.m.
Fri., Apr. 18	Last day of classes
Mon.-Fri., Apr. 21-25	Examinations
Wed., Apr. 23	Senior grades due
Sat., Apr. 26	Examinations for Saturday-only classes; second term ends after last examination
Sun., Apr. 27	Commencement
Mon., Apr. 28	Grades due in Registrar's Office at 9:00 a.m.; deficiency slips due in deans' offices
Fri., Jun. 6	Last day to change second-term grades

THIRD TERM—First Session

Wed., Apr. 30	Last day to complete registration
Thu., May 1	Classes begin at 8:00 a.m.
Tue., May 6	Last day to change grading options and schedules; last day for late registration
Thu., May 8	Feast of the Ascension—no classes except MBA evening classes
Fri., May 16	Last day to withdraw without record from first-session courses
Mon., May 26	Memorial Day—no classes
Tue., May 27	Last day to withdraw without record from full-third-term courses
Fri., May 30	Last day to withdraw with record of W from first-session courses
Thu.-Fri., Jun. 12-13	Examinations
Sat., Jun. 14	Examinations for Saturday-only classes; first session ends after last examination
Tue., Jun. 17	Grades due in Registrar's Office at 9:00 a.m.; deficiency slips due in deans' offices

THIRD TERM—Second Session

Fri., Jun. 13	Last day to complete registration
Mon., Jun. 16	Classes begin at 8:00 a.m.
Fri., Jun. 20	Last day for late registration; last day to change grading options and schedules; last day to submit candidacy for graduation in July
Wed., Jun. 25	Last day to withdraw without record from second-session courses
Fri., Jul. 4	Independence Day—no classes
Mon., Jul. 14	Last day to withdraw with record of W from second-session and full-third-term courses
Fri., Jul. 18	Last day to change first-session grades
Thu., Jul. 24	Last day of classes
Fri.-Sat., Jul. 25-26	Examinations
Sat., Jul. 26	Examinations for Saturday-only classes; third term and second session end after last examination
Sun., Jul. 27	Diploma exercises
Tue., Jul. 29	Grades due in Registrar's Office at 9:00 a.m.; deficiency slips due in deans' offices

1986-87 PROPOSED ACADEMIC CALENDAR

FIRST TERM

Sun.-Tue., Aug. 24-26	New Student Orientation
Tue., Aug. 26	Last day to complete registration
Wed., Aug. 27	Classes begin at 8:00 a.m.
Mon., Sep. 1	Labor Day—no classes
Mon., Oct. 13	Columbus Day—no day or evening classes except those held only once weekly at 4:30 p.m. and after
Wed., Nov. 26	Thanksgiving recess begins after last evening class
Mon., Dec. 1	All classes resume
Mon., Dec. 8	Feast of Immaculate Conception—no classes—Christmas on Campus
Wed., Dec. 10	Last day of classes
Thu., Dec. 11	Study Day
Fri.-Thu., Dec. 12-18	Examinations
Sat., Dec. 13	Examinations for ENG 111 and for Saturday classes
Wed., Dec. 17	Senior grades due
Thu., Dec. 18	First term ends after last examination
Sat., Dec. 20	Diploma exercises
Mon., Dec. 22	Grades due in Registrar's Office at 9:00 a.m.

SECOND TERM

Fri., Jan. 2	Last day to complete registration
Mon., Jan. 5	Classes begin at 8:00 a.m.
Mon., Jan. 19	Martin Luther King Day—Faculty Workshop—no day or evening classes except those held only once weekly at 4:30 p.m. and after
Mon., Feb. 16	Lincoln-Washington Day—no day or evening classes except those held only once weekly at 4:30 p.m. and after
Tue., Feb. 17	Midterm break—no day or evening classes except those held only once weekly at 4:30 p.m. and after
Wed., Apr. 15	Last day of classes
Wed., Apr. 15	Easter recess begins after last evening class
Mon.-Fri., Apr. 20-24	Examinations
Wed., Apr. 22	Senior grades due
Sat., Apr. 25	Examinations for Saturday-only classes
Sat., Apr. 25	Second term ends after last examination
Sun., Apr. 26	Commencement
Mon., Apr. 27	Grades due in Registrar's Office at 9:00 a.m.

THIRD TERM—First Session

Mon., May 4	Classes begin at 8:00 a.m.
Mon., May 25	Memorial Day—no classes
Thu., May 28	Feast of the Ascension—no classes except MBA evening classes
Fri., Jun. 12	Last day of classes
Mon.-Tue., Jun. 15-16	Examinations
Fri., Jun. 19	Grades due in Registrar's Office at 9:00 a.m.

THIRD TERM—Second Session

Thu., Jun. 18	Classes begin at 8:00 a.m.
Fri., Jul. 3	Possible holiday
Tue., Jul. 28	Last day of classes
Wed.-Thu., Jul. 29-30	Examinations
Wed., Jul. 29	Senior grades due
Sun., Aug. 2	Diploma exercises
Mon., Aug. 3	Grades due in Registrar's Office at 9:00 a.m.

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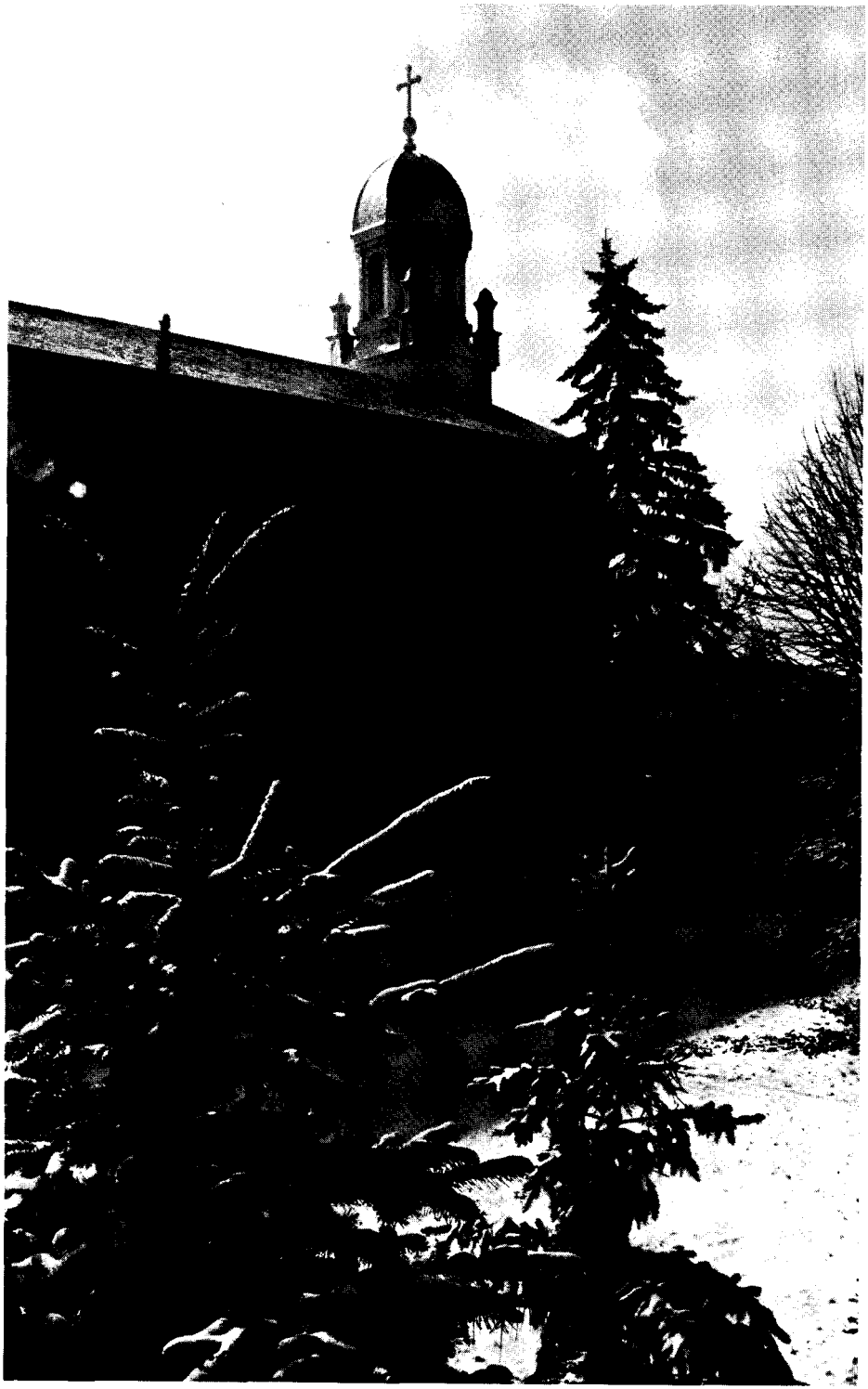


I The University of Dayton

Founded in 1850

The University of Dayton is a private, coeducational school founded and directed by the Society of Mary (the Marianists), a Roman Catholic teaching order.[1] It is among the nation's largest Catholic institutions of higher learning. Aware of the cultural richness of diversity, the University numbers among its students and faculty representatives of many faiths. For the same reason, the University has consciously drawn its students and faculty not only from the immediate community and the middle-western neighborhood but from across the country and from numerous foreign countries.

The main campus is seventy-six landscaped acres on a hill overlooking the city of Dayton, Ohio. The buildings are a pleasantly eclectic architectural mixture of old and new, all well equipped. The faculty, both lay and religious, are well qualified and competent to provide their students with superb instruction and prudent counseling. The University's policy of tempered discipline encourages students to responsible judgment and conduct in the pursuit of academic and professional excellence.

A lively, friendly atmosphere; reasonable tuition rates; financial aid plans; numerous and varied religious, cultural, and social opportunities; an early-semester calendar allowing a number of study-recess options; intercollegiate and intramural athletic programs for both men and women; academic options such as honors programs, independent study, and study abroad; academic, professional, and personal counseling; cooperative work-study plans; a placement service for students and graduates—these exemplify the myriad aspects of the character of the University of Dayton.

BRIEF HISTORY

In 1849, Father Leo Meyer, Brother Maximin Zehler, Brother Andrew Edel, and Brother Charles Schultz, the first Marianist missionaries to America, journeyed from Alsace-Lorraine to Cincinnati, where they intended to establish a base for the order in this country. But they arrived during an epidemic of cholera, and Bishop Purcell of Cincinnati soon sent them to Dayton, to minister to the sick of Emmanuel parish. Here they met John Stuart, who, grieving over his infant daughter's death from cholera, wanted to sell his property and return to Scotland. In March 1850 Father Meyer purchased his Dewberry Farm and renamed it Nazareth. Mr. Stuart, a man of great faith, accepted a medal of St. Joseph and a promise of $12,000 in return for 125 acres, including vineyards, orchards, a mansion, and various farm buildings. This became the first permanent foundation of the Society of Mary in the western hemisphere.

[1]The Society of Mary, founded in France in 1817 by Father William Joseph Chaminade, presently conducts schools throughout the United States and in Africa, Australia, Canada, Japan, Europe, and South America. The Society operates Chaminade College in Honolulu, Hawaii, and St. Mary's University in San Antonio, Texas.

The University of Dayton had its earliest beginnings here on July 1, 1850, when St. Mary's School for Boys, a frame building that not long before had housed farm hands, opened its door to fourteen primary students from Dayton. In September, the classes moved to the mansion, and the first boarding students arrived. Father Meyer was administrator, Brother Zehler was teacher, Brother Schultz was cook, and Brother Edel was farmer-gardener.

Five years later the school burned to the ground; but within a year classes resumed. By 1860, when Brother Zehler became president, enrollment approached one hundred. The Civil War had little direct effect on the school; most of the students were too young to serve. St. Mary's grew; college preparatory courses were started in 1861; then came a novitiate; then a normal school. An old history refers to the period of 1860-75 as "the brick-and-mortar years." The Chapel of the Immaculate Conception was completed in 1868. In 1870, visitors marveled at new St. Mary Hall, the largest building in the city of Dayton, and called it Zehler's Folly. The new "college department" moved into it in 1871. (St. Mary's Hall is now listed in the National Register of Historic Places.)

In 1882, the institution was incorporated and empowered to confer collegiate degrees under the laws of the State of Ohio. In 1883, another devastating fire visited the campus, but this time some of the buildings were saved. The statue of Our Lady of the Pines was erected in gratitude, and the following year St. Joseph's Hall was built, symbolizing the renewed confidence of the Dayton Marianists. In a more famous emergency, the school was spared by water as it had not been by fire. It survived the Great Flood of 1913 untouched because of its hillside location, and was able to give shelter to 600 refugees.

St. Mary's had reorganized in 1902 into four departments—classical, scientific, academic, and preparatory. In 1905 it added the Commercial Department, which would become the Department of Commerce and Finance in 1921, the Division of Business Organization in 1924, and ultimately the School of Business Administration. Four engineering departments, appearing from 1909 to 1920, were to become the Engineering Division. In 1915, the seminary program was moved to Mount St. John's Novitiate (now Bergamo).

Known at various times as St. Mary's School, St. Mary's Institute, and St. Mary's College, the school assumed its present identity in 1920, when it incorporated as the University of Dayton. The same year, the elementary division was closed, the Division of Education was organized, and the University started its tradition of evening and Saturday classes, to serve the adult members of the surrounding community. In 1922, the College of Law opened, also with evening classes. Other graduate programs followed, to augment the professional degree programs which distinguish the University from many of Ohio's other independent institutions of higher learning. In 1923, the first summer session was held, its classes, like those of the law college, open to women as well as men. This decade of academic growth and innovation was as well a time of increased emphasis on sports and physical education.

The 1930s, with the Great Depression, were in many ways a time of retrenchment for the University of Dayton as for most other schools. But the Dayton Marianists had survived cholera, smallpox, and influenza, wars, fire and flood, and (in 1924) a Ku-Klux-Klan cross-burning on the campus. In 1935, even as it turned its preparatory school functions over to Chaminade High School and graduated what was to be its last class in law for almost

forty years, the University inaugurated a college for women, with sisters of Notre Dame in charge of twenty-seven entering female students. Two years later, the college for women closed; all divisions opened to women, and the University became fully co-educational.

Enrollment had passed a thousand when World War II broke out. By 1950, with the return of the veterans, it was more than 3,500. Graduate studies, abandoned during the war, were reinstituted in 1960. Also in 1960, the University reorganized academically and administratively. The College of Arts and Sciences was formed of what had been two separate units, and the other divisions became the Schools of Business Administration, Education, and Engineering. In 1974, when the School of Law reopened, the University achieved its present academic configuration. The Board of Trustees, with many members from the lay community, replaced the Marianist governing body of the University, and lay faculty were recruited in increasing proportions to keep pace with the burgeoning enrollment.

These years, too, were "brick-and-mortar years"; a series of building programs tripled the number of major campus facilities in the thirty years after World War II. Both campus and off-campus residences—dormitories, apartments, and houses—were added and improved as such emergency accommodations as surplus Army barracks and an adapted Army hospital (renamed the West Campus) were phased out. Meanwhile the academic offerings were expanded and enriched, as the graduate and undergraduate enrollment steadied at over ten thousand full- and part-time students.

The University has a tradition of innovation. In 1874 St. Mary's Institute's new Play House (gymnasium) was the only one of its kind in Ohio, and it is probable that the first organized basketball game in the state took place there. A system of elective studies was inaugurated in 1909. In 1924, the University was the first school to be granted a charter by the National Aeronautical Association. It was one of the first in the nation to offer a course in biophysics (1935). In 1948, it pioneered in student ratings of professors, and in 1952, it invited persons over 60 to attend its evening classes as guests. It was one of the first educational institutions to adopt electronic data-processing equipment and to offer degrees in computer science.

Sponsored research at the University began in 1949 with a few faculty members and student assistants doing part-time research for industry and government agencies. In 1956, the University of Dayton Research Institute was formed to consolidate the administration of the growing research activities. Annual research volume has increased from $4,000 in 1949 to nearly $25 million at the present time.

STATEMENT OF PURPOSES

Approved by the Board of Trustees, May 14, 1969.

The University of Dayton, by tradition, by legal charter, and by resolute intent, is a church-related institution of higher learning. As such, it seeks, in an environment of academic freedom, to foster principles and values consonant with Catholicism and with the living traditions of the Society of Mary. Operating in a pluralistic environment, it deliberately chooses the Christian world-view

as its distinctive orientation in carrying out what it regards as four essential tasks: teaching, research, serving as a critic of society, and rendering public service.

The University of Dayton has as its primary task to teach—that is, to transmit the heritage of the past, to direct attention to the achievements of the present, and to alert students to the changes and challenges of the future. It regards teaching, however, as more than the mere imparting of knowledge; it attempts to develop in its students the ability to integrate knowledge gained from a variety of disciplines into a meaningful and viable synthesis.

The University of Dayton holds that there is harmony and unity between rationally discovered and divinely revealed truths. Accordingly, it commits its entire academic community to the pursuit of such truths. It provides a milieu favorable to scholarly research in all academic disciplines, while giving priority to studies which deal with problems of a fundamentally human and Christian concern. It upholds the principle of responsible freedom of inquiry, offers appropriate assistance to its scholars, and endeavors to provide the proper media for the dissemination of their discoveries.

The University of Dayton exercises its role as critic of society by creating an environment in which faculty and students are free to evaluate, in a scholarly manner, the strengths and weaknesses found in human institutions. While, as an organization, it remains politically neutral, objective, and dispassionate, it encourages its members to judge for themselves how these institutions are performing their proper tasks; to expose deficiencies in their structure and operation; to propose and actively promote improvements when these are deemed necessary.

The University of Dayton recognizes its responsibility to support, with means appropriate to its purposes, the legitimate goals and aspirations of the civic community and to cooperate with other agencies in striving to attain them. It assists in promoting the intellectual and cultural enrichment of the community; it makes available not only the resources of knowledge that it possesses, but also the skills and techniques used in the accumulation and dissemination of knowledge; and, above all, it strives to inspire persons with a sense of community and to encourage men and women of vision who can and will participate effectively in the quest for a more perfect human society.

BASIC ACADEMIC STRUCTURE OF THE UNIVERSITY

The University of Dayton now includes the College of Arts and Sciences and four professional schools, each with a dean: the School of Business Administration, the School of Education, the School of Engineering (including Engineering Technology), and the School of Law. The deans, through their departmental chairpersons, administer the undergraduate and graduate programs. The Associate Provost has the overall responsibility for all graduate programs. At the head of the academic structure of the University is the Vice President for Academic Affairs and Provost.

The University of Dayton awards the following baccalaureate, professional, and graduate degrees:

University of Dayton

Bachelor of Arts
Bachelor of Chemical Engineering
Bachelor of Civil Engineering
Bachelor of Electrical Engineering
Bachelor of Fine Arts
Bachelor of General Studies
Bachelor of Mechanical Engineering
Bachelor of Music
Bachelor of Science
Bachelor of Science in Art Education
Bachelor of Science in Business Administration
Bachelor of Science in Education
Bachelor of Science in Engineering Technology
Bachelor of Science in Home Economics Education
Bachelor of Science in Music Education
Master of Arts
Master of Business Administration
Master of Clinical Chemistry
Master of Clinical Laboratory Technology
Master of Computer Science
Master of Humanities in Philosophy
Master of Public Administration
Master of Science
Master of Science in Aerospace Engineering
Master of Science in Applied Mathematical Systems
Master of Science in Chemical Engineering
Master of Science in Civil Engineering
Master of Science in Education
Master of Science in Electrical Engineering
Master of Science in Electro-Optics
Master of Science in Engineering
Master of Science in Engineering Management
Master of Science in Management Science
Master of Science in Materials Engineering
Master of Science in Mechanical Engineering
Master of Science in Teaching
Educational Specialist
Juris Doctor
Doctor of Engineering
Doctor of Philosophy in Biology
Doctor of Philosophy in Engineering

College of Arts and Sciences

The College of Arts and Sciences includes the following departments and programs: American Studies, Biology, Chemistry, Communication Arts, Computer Science, Criminal Justice, Cytotechnology, Economics, English, General Studies, Geology, History, Home Economics, International Studies, Languages, Mathematics, Medical Technology, Military Science, Performing and Visual Arts (Fine Arts, Music, Theatre, Photography), Philosophy, Physical Science, Physics, Political Science, Psychology, Religious Studies, Social Work, Sociology, and Systems Analysis.

Preprofessional courses are offered in medicine, dentistry, dietetics, optometry, veterinary medicine, music therapy, pharmacy, law, foreign service, social work, and radio and television broadcasting. The programs leading to the Bachelor of Science with majors in Cytotechnology, Medical Technology, and Nuclear Medicine Technology are operated in cooperation with nearby hospitals. The clinical programs at these hospitals are accredited by the Committee on Allied Health Education and Accreditation of the American Medical Association through the National Accrediting Agency for Clinical Laboratory Sciences.

Programs leading to the Master of Arts or the Master of Science are offered in American Studies, Biology, Chemistry, Communication Arts, English, History, Humanities, Mathematics, Philosophy, Physics, Political Science, Psychology, and Theological Studies. The Department of Chemistry offers the Master of Clinical Chemistry. The Department of Computer Science offers the Master of Computer Science. The Department of Philosophy offers the Master of Human-

ities in Philosophy. The professional degree Master of Public Administration is also offered. The Department of Biology offers the Doctor of Philosophy.

School of Business Administration

The School of Business Administration offers undergraduates majors in Accounting, Economics, Finance, Management, Management Information Systems, and Marketing. On the graduate level, the School awards a Master of Business Administration.

School of Education

The School of Education prepares teachers for the elementary and secondary levels and for such specialized fields as art, music, speech, business, health and physical education, home economics, and special education. It conducts retraining and post-graduate programs and offers graduate programs leading to the Master of Science in Education, the Master of Science in Teaching, and Educational Specialist. These programs are designed to prepare school administrators, school counselors, school psychologists, elementary teachers, high school teachers, and educational research specialists.

School of Engineering

The School of Engineering includes the Departments of Chemical Engineering, Civil Engineering and Engineering Mechanics, Electrical Engineering, and Mechanical Engineering. The School offers graduate programs leading to the degrees of Master of Science in Engineering, Master of Science in Aerospace Engineering, Master of Science in Chemical Engineering, Master of Science in Civil Engineering, Master of Science in Electrical Engineering, Master of Science in Electro-Optics, Master of Science in Engineering Management, Master of Science in Management Science, Master of Science in Materials Engineering, Master of Science in Mechanical Engineering, Doctor of Engineering, and Doctor of Philosophy in Engineering.

The Engineering Technology Division of the School of Engineering includes the Departments of Chemical Technology, Electronic Engineering Technology, and Mechanical Engineering Technology. Engineering Technology offers four-year bachelor's degree curricula in Bio-Engineering Technology, Chemical Process Technology, Electronic Engineering Technology, Environmental Engineering Technology, Industrial Engineering Technology, and Mechanical Engineering Technology.

Engineering service courses within the School provide course work and programs in certain areas of concentrated study for both engineering and non-engineering majors.

School of Law

The University of Dayton School of Law offers the Juris Doctor, as well as three joint degree programs: Juris Doctor-Master of Business Administration, Juris Doctor-Master of Science in Education (Educational Administration), and Juris Doctor-Master of Arts (Philosophy).

The plan and design of the law program is predicated on a careful consideration of what law as a profession demands of the student choosing it: a high level

of competence in the knowledge, theory, and practice of law; and responsibility in the roles it imposes—counselor, advocate, member of a profession, and public servant. The School of Law regards as its prime responsibility, to both the student and society, to provide a program of studies that is thorough and exacting, so that such competence and responsibility are achieved.

LIBRARIES

The University of Dayton Roesch Library houses the book, journal, government documents, and microform collections for both graduate and undergraduate students. Its book holdings number almost 850,000 volumes and its journal titles almost 3,000. The Marian Library, other rare books and special collections, and the University Archives are also part of this facility. It is open 98 hours a week, provides almost continuous reference service, and offers online bibliographic searching. Confortable study areas are convenient to the open stacks, and typewriters, photocopiers, seminar rooms, and faculty and graduate study carrels are available.

The Marian Library, on the seventh floor of the Roesch Library building, houses the world's largest collection of works on the Virgin Mary. Its resources in over fifty languages include 66,000 books and pamphlets (some 6,000 printed before 1800), 125 periodicals, a clipping file of over 49,000 items, and a growing number of microforms. These works are supplemented by smaller collections: slides, medals, postcards, Marian postage stamps, and illustrations of various kinds. In addition to these materials dealing with Mariology, the library has significant holdings in national and regional bibliographies, reference works on the Bible, ecclesiastical and dogmatic history, church art (especially of the Eastern Churches and Medieval Europe), and the history of the book.

The University of Dayton School of Law Library is located on the ground floor of the Roesch Library building and is connected with the Law School Building (Albert Emanuel Hall). Its collection contains over 150,000 volumes and 63,000 physical units of microforms. The open-stack arrangement of the Law Library permits easy access to all materials.

The Curriculum Materials Center houses the specialized collections of the School of Education and is located on the first floor of Chaminade Hall. It offers a wide selection of elementary and secondary textbooks, filmstrips, records, transparencies, cassettes, charts, material kits, and teaching aids.

The University's active membership in the Southwestern Ohio Council for Higher Education has significantly augmented the library resources available to her students. Some libraries in the Council will lend materials directly to students from other schools; others require interlibrary loan forms, which may be secured from one of the reference librarians.

ACCREDITATION

The University of Dayton is officially accredited by the following agencies:

The Accreditation Board for Engineering and Technology, Inc., for chemical, civil, electrical, and mechanical engineering curricula and for baccalaureate programs in electronic, industrial, and mechanical engineering technology

The American Assembly of Collegiate Schools of Business for the baccalaureate programs of the School of Business

The American Bar Association for its School of Law
The Association of American Law Schools for its School of Law
The National Association of Schools of Music
The National Council for Accreditation of Teacher Education
The North Central Association of Colleges and Schools
The State of Ohio Department of Education

The University has the approval of the following:
The American Chemical Society for its program in chemistry
The American Dietetic Association for Plan IV (Program S7) in home economics
The American Medical Association for its premedicine program
The Council on Social Work Education
The National Association for Music Therapy
The Ohio League of Law Schools for its School of Law

INSTITUTIONAL MEMBERSHIP

The University holds institutional membership in the following:
The American Assembly of Collegiate Schools of Business
The American Association for Higher Education
The American Association of Colleges for Teacher Education
The American Association of Collegiate Registrars and Admissions Officers
The American Association of University Women
The American Council on Education
The American Home Economics Association
The American Library Association
The American Society for Engineering Education
The Association of American Colleges
The Association of American Law Schools
The Association of Catholic Colleges and Universities
The Association of College and University Housing Officers
The Association of Governing Boards of Universities and Colleges
The Association of Independent Colleges and Universities of Ohio
The Catholic College Coordinating Council
The College Entrance Examination Board
The College and University Personnel Association
The Comparative and International Education Society
The Cooperative Education Association
The Council for Support and Advancement of Education
The Council for the Advancement of Experiential Learning
The Council of Graduate Schools
The Council on Social Work Education
The Dayton Area Chamber of Commerce
The Dayton Art Institute (sponsoring)
The Institute of International Education
The League of Ohio Law Schools
The National Association for Foreign Student Affairs
The National Association of Independent Colleges and Universities
The National Association of Student Personnel Administrators
The National Catholic Education Association
The National Council of Catholic Bishops

The National Scholarship Service and Fund for Negro Students
The North Central Association of Colleges and Schools
The North Central Conference on Summer Schools
The Ohio Academy of Science
The Ohio Association of Colleges for Teacher Education
The Ohio Association of Private Colleges for Teacher Education
The Ohio College Association
The Ohio Continuing Higher Education Association
The Society for the Advancement of Education
The Southwestern Ohio Council for Higher Education

SOUTHWESTERN OHIO COUNCIL FOR HIGHER EDUCATION

Twenty-one institutions of higher learning, including the University of Dayton, have organized the Southwestern Ohio Council for Higher Education (SOC). The participating institutions seek to increase inter-institutional cooperation, improve curricula, develop new courses and programs, share library resources, minimize cost, and centralize selected functions, by using computers, modern educational technology, and communication media.

Among the benefits of the Council is that regularly enrolled full-time stuents at one institution, under certain conditions, may register for credit at no additional charge in courses offered by other Council institutions in which no instruction is available at their own institution. Also available through the Council is the Air Force ROTC program.

RELATED UNIVERSITY SERVICES

Besides the regular day sessions, the University conducts special as well as regular evening and summer sessions and offers short-term workshops, institutes, and conferences. All credited courses, whenever offered or in whatever form, conform to the same standards and are governed by the same policies and regulations prevailing during the regular day sessions.

The Office of Continuing Education especially serves the part-time students of the Dayton community, to make the University and its course offerings, both credit and noncredit, more easily available to them. Similarly, an international student advisor serves students from other countries who are enrolled at the University.

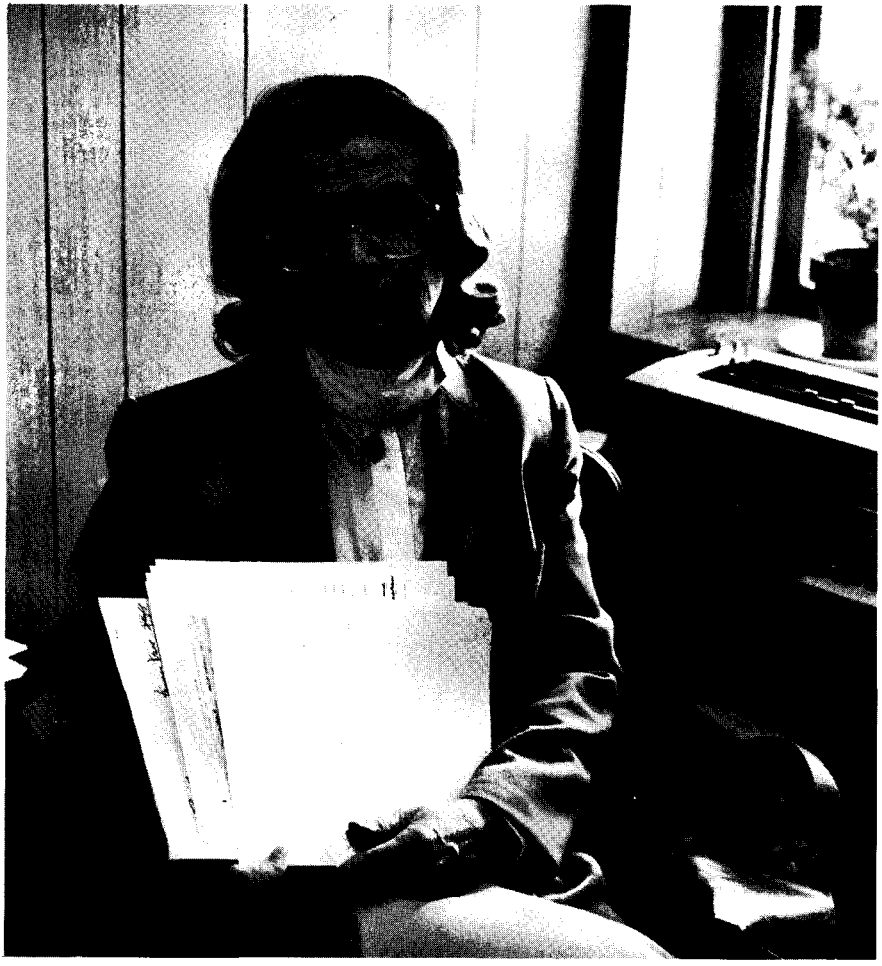
To foster interdisciplinary efforts, the Office of the Provost administers courses designated UDI (University of Dayton Interdisciplinary) to accommodate interschool offerings and experimental programs. (UDI courses are listed and described in Chapter X, as are other special offerings.)

The Research Institute, an integral, not a separate, component of the University of Dayton, provides important resources and reinforcement for all levels of academic endeavor, as does the Office for Computing Activities. (See Chapter X.) WVUD-FM, a radio station covering the Miami Valley area, located on campus, is available to all University departments and programs. A unit of the Reserve Officers Training Corps, also based on the campus, offers its academic program through the Department of Military Science. (See MIL, Chapter VI.)

ACADEMIC CALENDAR YEAR

The University of Dayton operates under an early semester, split third-term calendar. The academic year begins with the fifteen-week fall term, which ends before Christmas. The winter term, also fifteen weeks, begins in January and ends late in April. The third, or spring-summer term, is split into two complete sessions of six weeks each.

The advantages of such a calendar are many. Students may enroll for the traditional fall and winter semesters and have a four-month summer vacation; or they may add half terms or full terms to enrich their programs or speed the completion of their graduation requirements. (The University holds graduation ceremonies at the end of each term.) Students who must earn their own money can have extra time for employment in spring and summer; or they may enroll for the third term and work during the fall or the winter term, when the employment market is not crowded with other college students.



II Student Life and Services

The Vice President for Student Development and the Student Development staff are responsible for assisting in developing and maintaining an environment which will support the educational goals and the Christian values of the University of Dayton. While students are encouraged to accept responsibility to make decisions, it is understood that decision making involves risks. The Student Development staff provide individual and group counseling and supportive reinforcement, treating all students as individuals. All members of the Student Development staff are professional counselors.

OFFICE OF RESIDENCE LIFE
HOUSING OFFICE

One of the most challenging experiences a student can have at the University is to live in a residence hall. Respect for the rights of other people and a willingness to contribute to an atmosphere of cooperation and mutual respect will make the residence hall experience successful.

Professional and graduate and undergraduate student staffs coordinate with the Office of Residence Life and the Housing Office in administering University residence halls and apartments. An elected hall council represents students' opinions and initiates programs in each hall, and a judicial board facilitates the due process system in disciplinary matters. Counseling and consultation as well as the celebration of Mass are provided in the residence halls by the Campus Ministry.

While sophomore, junior, and senior students may arrange their own housing either on or off campus, freshmen are required to live in the University residence system unless they are married, are twenty-one years of age or over, or are local residents living with their families.

All new students, upon their official acceptance to the University of Dayton, receive from the Office of Admissions application/contracts and instructions for residence hall accommodations. However, any questions about housing should be directed to the Housing Office of the University of Dayton.

FOOD SERVICE

The University of Dayton's Food Service maintains two student dining facilities: the Brass Lantern in Marycrest complex and El Granada in Kennedy Memorial Union. A large snack bar in the Union offers light meals as well as snacks. In addition, all of the residence halls have snack bars, which are open evenings and weekends.

Freshman students living on campus are required to purchase either five-day or seven-day meal tickets. Other students may purchase meal tickets or make their own daily arrangements. Five-day lunch tickets are available to commuters. On weekends, students may eat in the cafeteria on a cash basis if they wish.

OFFICE OF UNIVERSITY ACTIVITIES

The Office of University Activities sponsors and coordinates extra-curricular and co-curricular activities for University organizations, departments, groups, and students in general. These not only enrich and enhance educational, cultural, and social development but foster a spirit of community in accord with the objectives of the University of Dayton.

Numerous and varied cultural, social, and recreational activities take place on campus, many of them in the Kennedy Memorial Union. Among the continuing programs are the University Arts Series, with renowned guests, chiefly in music, the dance, and literature; the Distinguished Speakers Series; the Music Division series of recitals and concerts by students and faculty; regular productions by the Performing and Visual Arts Department and Studio Theatre; Noon Forums, a weekly series on subjects of current interest; a classic film series; and shows and exhibitions in the Kennedy Art Gallery.

In addition, the outstanding musical, dramatic, and artistic programs and events in the Dayton area are well publicized on campus. Most offer special student rates.

STUDENT HEALTH SERVICES AND INSURANCE

The University Health Service in the Gosiger Health Center, well staffed and well equipped, assists in safeguarding the health of students. The University physician is on duty here six hours daily for advice and treatment. Nurses are available twenty-four hours a day.

Students may come to the Health Center for out-patient treatment by the staff on duty. No restriction is made on the number of visits. Students whose permanent residence is not within commuting distance may avail themselves of the in-patient services of the infirmary at a nominal cost. When the case warrants, the patient is transferred to one of the local hospitals by the University ambulance.

Some infirmary or hospital costs are covered by the highly recommended student insurance program available to all full-time students. Complete information on it will be sent to each student prior to the start of the school year.

THE CAMPUS MINISTRY

Campus Ministry seeks to lead the university in fostering a faith community among its members. This faith is manifested in personal and communal devotion to God, especially as revealed in Jesus Christ; in common worship; in the quality of relationships among the members of the community; and in efforts at enriching humanity and the world through the articulation of moral and religious values and their implementation.

In order to achieve this goal, Campus Ministry provides a number of services to all who are part of the university community. It cooperates with all segments of the university in fostering human development and the articulation and implementation of moral and religious values. It provides opportunities for prayer, for the celebration of the sacraments, for retreat experiences, and for pastoral counseling. It sponsors events, classes, and seminars that concern the deepening of faith, the awareness of human needs, and the practice of religious and moral values. It coordinates the efforts of more than fifteen student organi-

zations that offer opportunities for community service. Though specifically Roman Catholic, it cooperates with and helps foster other religious groups on campus.

ATHLETICS

Many people throughout the country have come to know the University of Dayton through the accomplishments of its intercollegiate athletic teams. Participation in athletics is part of the educational development the University offers all students. There are ten men's intercollegiate sports: football, soccer, cross country, and water polo in the fall; ice hockey, wrestling, and basketball in the winter; and baseball, golf, and tennis in the spring. There are six women's intercollegiate sports: volleyball, tennis, soccer, and cross country in the fall; basketball in the winter; and softball in the spring. Cheerleading tryouts, open to all students, are held each year.

Any athlete—male or female—who anticipates trying out for any varsity sport must submit a complete physical and medical history, signed by a doctor, before he or she can participate in any tryouts.

Welcome Stadium and the U. D. Arena are the focal points of intercollegiate activity. Welcome Stadium, carpeted with Astroturf, seats 12,000 for football games, and the U. D. Arena seats 13,500 for basketball.

INTRAMURAL AND RECREATIONAL SPORTS

The University of Dayton provides a variety of intramural and recreational sports in which all students are invited to participate. The Intramural and Recreational Sports office is on the second floor of the Physical Activities Center. Students are invited to stop in at any time or to call 229-2731 for information.

The Physical Activities Center houses both intramural competition and informal recreation. Inside the PAC are a 25-yard pool, handball, racquetball, and squash courts, men's and women's locker rooms, a weight room, two tennis courts, and two basketball courts surrounded by a 1/9-mile track. A student lounge overlooks both the Collins Gymnasium and the Lackner Natatorium. The PAC is connected to the Fieldhouse, which has four additional basketball and volleyball courts.

Students are permitted to use the University's recreational facilities whenever they are not being used in organized programs such as classes, competitive intramural events, or scheduled practice sessions by various University organizations. Schedules may be secured from the intramural office for fields, courts, and both gymnasiums.

CENTER FOR PSYCHOLOGICAL AND DEVELOPMENTAL SERVICES

In keeping with the University's dedication to educating the whole person, the Center for Psychological and Developmental Services offers programs for personal, social, emotional, intellectual, and career development. The Center includes the Psychological Services Center, the Learning Assistance Center, and the New Student Orientation Program.

PSYCHOLOGICAL SERVICES CENTER

Testing and counseling are the primary concerns of the Psychological Services staff. The Guidance Testing Program, administered to all new students, assists them in identifying their talents and aptitudes as well as, when warranted, their problems. Additional testing services are available as needed. No problem of the student is considered too minor to explore. Since counseling may involve rather sensitive personal matters, discussions between counselors and students are considered confidential.

The Coordinator of Services for Handicapped Students, a staff member of Psychological Services, provides assistance and counseling for prospective and enrolled handicapped students.

LEARNING ASSISTANCE CENTER

The Learning Assistance Center offers help in academic and personal development through three courses—Developmental Reading and Study Skills, Developmental Mathematics, and Developmental Writing—and through additional formal and informal instruction in study skills improvement and career planning. (See aso DEV, Chapter X.)

From Tutorial Services, coordinated through the Learning Assistance Center, students may receive additional help with their classroom work. The Write Place, a writing laboratory, is available to all students on a drop-in basis for help with any kind of writing project. There is no charge for either of these services.

The Learning Assistance Center also maintains a Graduate Test Preparation Library, containing manuals and other materials for students preparing to take specialized tests necessary for acceptance into graduate programs.

NEW STUDENT ORIENTATION PROGRAM

Each year new undergraduate students arrive a few days before the opening of the academic year to participate in the New Student Orientation Program. Its purpose is to familiarize the students with the campus and to assist them in their transition to student life by providing a variety of academic and social functions.

CAMPUS SECURITY

Campus Security is the recognized, lawful, professional police agency on all University property. It is the objective of this department to make the University a comfortable, efficient, and safe place. The University of Dayton Campus Security is dedicated to the preservation of freedom of movement and communication with a minimum of fear of property loss or personal injury.

On-campus parking facilities are limited. Commuting students should go to the traffic office (Gosiger Center) for on-campus parking permits. Campus residents may apply at the traffic office for on-campus parking permits, which will be issued on a space-available, first-come, first-served basis to those who can validate special need. Drivers with unusual problems will be given special consideration. Freshman students who live on campus may be issued permits only if they can validate special need.

Those in need of emergency assistance or ambulance service should call Campus Security.

GRADUATE AND ALUMNI PLACEMENT

The services of the Placement Office, Jesse Philips Center, which are available to seniors, graduate students, and alumni seeking career positions in business, industry, and government, include the following:

1. Personal employment counseling
2. Literature describing opportunities with over 350 employers
3. A listing of current job openings
4. Direct referral of alumni employers
5. Campus interviews by representatives of business, industry, and government

These are conducted from October through March; they are announced in a monthly calendar which can be obtained in the Placement Office.

Part-time and summer employment are the responsibility of the Student Employment Coordinator, Office of Personnel Services. Teacher placement is handled by the Teacher Placement Office, School of Education.

STUDENT IDENTIFICATION CARDS

At the beginning of the school year, all students must secure student identification (ID) cards which they are to carry at all times and present upon the request of duly authorized persons such as members of the administration, faculty, or staff, or the Campus Security officers. Provision for obtaining the card, complete with photograph, is made at the time of registration. Not only is the ID card obligatory, it is necessary in order to obtain numerous University services.

If a student withdraws from the University during the academic year, the ID card should be returned to the Student Development Office.

THE STUDENT HANDBOOK

Each student at the University of Dayton is responsible for knowing and observing the policies, regulations, and procedures contained in the official student handbook. This publication provides much other useful information on such subjects as University services, student organizations, student publications, and intercollegiate and intramural sports schedules.

Student handbooks are available at the opening of the fall term in the residence halls, the McGinnis Center, and the Kennedy Union.

III Admissions

Each application for admission to the University of Dayton is considered individually. The Admissions Committee reviews the academic achievement, aptitude, and interest of every applicant with the goal of admitting students who possess the intellectual ability and the motivation to profit best from their attendance at the University of Dayton.

APPLICATION FOR ADMISSION

All applications for admission must be submitted to the Director of Admissions on forms supplied by the University of Dayton. Applicants are encouraged to submit applications early in the senior year of high school.

The applicant must also present an official transcript of courses and grades in secondary school and the results of either the Scholastic Aptitude Test (SAT) of the College Entrance Examination Board (CEEB) or the American College Test (ACT). Any person whose native language is not English must submit an acceptable score in the Test of English as a Foreign Language (TOEFL). Exceptions to this policy may be made for students whose education has been in schools where English is the principal language of instruction.

Admission is based on the total information submitted by the applicant and in his or her behalf. It is the applicant's responsibility to see that complete information has been provided to the Director of Admissions.

When submitting the completed application to the high school counselor or principal for the inclusion of the transcript, the applicant should attach a check or money order for $15.00 payable to the University of Dayton. This application fee is nonrefundable.

CONSIDERATIONS FOR ADMISSION

The applicant must have graduated from a high school accredited by a regional accrediting agency or by a state department of education and have a total record indicating a likelihood of success at the University of Dayton. The General Education Development (GED) certificate is also recognized for consideration by the Admissions Committee.

The quality of the academic record is shown by the applicant's grades, standing in class, and selection of courses. Although no set pattern of courses is required for admission, a well prepared candidate will have had from 15 to 18 units in English, social sciences, mathematics, foreign language, and laboratory science. Those who plan to major in one of the natural sciences, mathematics, computer science, business administration, or engineering will find a strong mathematics background most helpful.

Additional indicators of academic aptitude are scores received on the Scholastic Aptitude Test (SAT), the American College Test (ACT), and, when applicable, the Test of English as a Foreign Language (TOEFL).

The Admissions Committee is very interested in the applicant's personal traits and record as a school citizen. The recommendation of the high school concerning ability, motivation, and character is carefully reviewed by the Admissions Committee.

Each applicant is encouraged to visit the campus for an interview with an admissions counselor. A visit will provide the applicant with an opportunity to see the campus and ask questions of the students and faculty.

TRANSFER STUDENTS

Students from accredited institutions may be considered for transfer to the University of Dayton provided they are in good standing socially and academically (at least a C average—2.0).

Transfer students will be considered for admission after they have followed the regular admissions procedure. They must also submit official transcripts from all institutions previously attended. It is not necessary for a transfer applicant to receive a guidance counselor's recommendation.

A transfer student is considered for a degree only after the last 30 semester hours have been taken on the University of Dayton campus and other requirements for graduation have been met. A student who transfers directly from a two-year institution will be required to earn at least 54 semester hours at the University of Dayton for any baccalaureate degree.

SAT or ACT test results are required only of transfer applicants under 21 years of age.

VETERANS

All departments at the University have been approved by the State Approving Agency for Veterans' Training. The Veterans Affairs Office is located in St. Mary's 202 and will assist in processing the necessary forms for educational benefits. Each semester the Veterans Schedule Form must be submitted and any changes in program be reported in writing—failure to follow this procedure may result in cancellation of benefits by the V.A. For the conditions for good academic standing, see "Academic Standing," Chapter V. If a veteran on probation fails to acquire the required cumulative grade point average at the end of the veteran's next full-time term, the benefits by the V.A. cease.

INTERNATIONAL STUDENTS

Undergraduate students who are not United States citizens or permanent residents of the United States are expected to follow the general admissions procedure outlined above *and* the specific procedures outlined in the Guide to Admissions for International Students. The applicant whose native language is not English must demonstrate a score of 500 to 525, depending upon the major field, on the Test of English as a Foreign Language (TOEFL). Exceptions to this policy may be made for students whose education has been in schools where English is the principal language of instruction.

A student unable to demonstrate an acceptable TOEFL score at the time of application may wish to apply for admission conditionally. Such a student will normally be expected to attend one of the special intensive English programs offered in the United States and demonstrate an adequate TOEFL score upon completion.

International student applicants must present their academic credentials in official English translation. The applicant must also present certification of financial resources available to support an education at the University of Dayton.

Other pertinent information may be obtained from the coordinator, International Services.

ADVANCED STANDING BY EXAMINATION

ADVANCED PLACEMENT (AP)

The University accepts the advanced placement program offered to secondary schools under the auspices of the Advanced Placement Committee of the College Entrance Examination Board.

The University will give not only advanced placement but also credit to students enrolled in the program, if such students have taken the tests provided and scheduled by the College Entrance Examination Board and have received favorable interpretation grades from the Educational Testing Service.

Students wishing to receive advanced placement under this program are to arrange that test scores be sent to the University Office of Admissions. Advanced standing with or without credit in appropriate subject areas is awarded as follows:

For a score of 5—two terms of advanced standing with credit
(In Chemistry, Physics C, and Computer Science only one term of advanced standing with credit is awarded.)
For a score of 4—one term of advanced standing with credit
For a score of 3—one term of advanced standing without credit
(In English no advanced standing is awarded.)

Scores below 3 do not entitle the applicant to either credit or advanced standing.

COLLEGE-LEVEL EXAMINATION PROGRAM (CLEP)

The University of Dayton cooperates with the College Level Examination Program (CLEP) of the College Entrance Examination Board (CEEB). Academic credit is available to students who achieve scores of 480 or above on any of the four acceptable areas of the General Examinations as indicated below:

English—no credit
Mathematics—maximum of 3 semester hours of credit
Natural Sciences—maximum of 7 semester hours of credit
Social Sciences and History—maximum of 6 semester hours of credit
Humanities—maximum of 6 semester hours of credit

Academic credit is also available to students who achieve scores of 480 or above on certain Subject Examinations. Since not all Subject Examinations are acceptable and some Subject Examinations require the Free Response (essay) Section, it is advisable to consult the University Coordinator for AP and CLEP.

PROJECT ADVANCEMENT

Through Project Advancement, certain high school juniors and seniors from the Dayton area may attend classes at the University. The project has the threefold purpose of introducing these students to the college atmosphere, allowing them to pursue subjects of their special interest beyond the levels available in high school, and providing them a means of earning college credit that can later be applied to degree programs.

Applicants are evaluated individually, and those found eligible are referred to departmental chairpersons for final approval and assignment to courses (usually at the freshman level). Interested students should call or write the Director of Admissions. Tuition costs are reduced for students enrolled in Project Advancement.

IV Financial Information

GENERAL POLICY

The tuition and fee charges of the University are set at the minimum permissible for financially responsible operation, and in general these charges are less than the actual costs incurred. Gifts and grants received through the generosity of industry, friends, and alumni help to bridge the difference between income and costs. The trustees of the University reserve the right to change the regulations concerning the adjustment of tuition and fees at any time the need arises and to make whatever changes in the curricula they may deem advisable.

Fees and tuition must be paid at the time of final registration for the term. All checks should be made payable to the UNIVERSITY OF DAYTON. The student's name and social security number should be shown on the face of each check to insure proper credit.

An assessment of $20.00 will be made for payment of tuition and fees by a bad check and cancellation of the student's registration will result until proper payment is made of tuition, fees, and special assessment.

An assessment of $5.00 will be made for passing other bad checks in any area at the University. This assessment is made each time a check is dishonored.

Registration for a new term, transcripts of credit, and honors of graduation will be permitted only for students whose University records are clear.

Under certain conditions, tuition reductions are granted to some unmarried children from the same family attending classes full time, simultaneously, and not on scholarship. Inquiries about such reductions should be made through the Office of Financial Aid in advance of each registration.

UNDERGRADUATE TUITION AND FEES AUGUST 1985 THROUGH JULY 1986

Fees Payable One Time

Application fee, payable once, upon application	$15.00
Matriculation fee, payable once by full-time students, at entrance	15.00
Testing and counseling fee, payable once, at entrance	65.00
Orientation fee, payable once, freshmen only	55.00
Orientation fee, payable once, freshman commuter students only	45.00

Tuition Charges in Terms I and II

Full-time undergraduate student (12-17 semester hours), per term	$2,490.00
Each semester hour over limitations stated above	136.00
Three-fourths-time undergraduate student (8-11 semester hours), per term	1,870.00

Full-time student teacher (13 or more semester hours of student teaching and courses), including the supervising teacher fee	2,490.00
Three-fourths-time student teacher (8-12 semester hours of student teaching), including the supervising teacher fee	1,870.00
Part-time undergraduate student (1-7 semester hours), per semester hour	136.00
Audit course, per semester hour	68.00

Basic University Fee, Terms I and II

Full-time and ¾-time student (8 or more semester hours), per term	140.00
Part-time student (1-7 semester hours), per term	20.00

Laboratory Fees, Terms I and II

Laboratory fee, per laboratory clock hour as listed in composite not to exceed $150.00 per term)	$ 30.00
Engineering surcharge fee (incorporating laboratory charges and computer science course fees), full-time and ¾-time engineering and engineering technology students, each term	185.00
Laboratory breakage deposit, each term	5.00-10.00
Computer science course fee for computer science and data processing courses, per course*	75.00
Use of School of Business computer in certain courses, per course*	75.00

*Combined with laboratory fees, not to exceed $150.00 per term for other than engineering majors.

Course Fees, Terms I and II

Studio fee for certain courses in fine arts	$10.00-45.00
Special course fees (scuba diving, skiing, etc.)	various
Music fees	25.00-125.00
Fees for certain courses in photography	50.00 & 75.00
Fees for certain courses in theatre	25.00

Tuition and Fees, Term III

Tuition, per semester hour	$136.00
Basic University fee	20.00

Laboratory and course fees—Same as in Terms I and II except no surcharge for engineering; laboratory fees will be paid per clock hour.

Other Charges

ROTC Uniform deposit, payable once each year, refundable	$20.00
Service charge for change of schedule—minimum	2.00
Late registration service charge:	
Full-time students	25.00
Part-time and summer students	15.00

Credit by examination, per semester hour	15.00
Make-up final examinations	5.00
Graduation fee, undergraduate and graduate students	45.00
Books and supplies	variable
Transcript of credits, first copy of order	2.00
Each additional copy of same order	.50
Co-op student fee, per work term	55.00

FULL-TIME AND ¾-TIME STUDENTS

A student with an academic schedule of at least 12 semester hours is considered a full-time student. A student with an academic schedule of 8-11 semester hours (8-12 for student teachers) is considered a ¾-time student. With this status and upon payment of the tuition and applicable fees, the student is entitled to the benefits of the various activities and student services as available.

PART-TIME STUDENTS

A student with an academic schedule of fewer than 8 semester hours is considered a part-time student and is not entitled to all the benefits of the various activities and student services.

SPECIAL STUDENTS

Special students and nonmatriculated students are subject to the various expenses outlined above for full-time, ¾-time, or part-time students.

CANCELLATION AND REFUNDS

If registration is cancelled before the first day of classes, full refunds will be made, with the exception of housing and admission deposits.

Cancellation must be in writing on the proper form, the withdrawal or "drop" form. For nonlocal students a letter to the appropriate dean may be used as notification of cancellation. Students who do not attend classes and do not officially complete withdrawal procedures during the cancellation period will be responsible for the full amount of the applicable tuition and fees.

During the four-week cancellation period for the first and second terms, the tuition and housing charges will be made according to the following schedule:

During the first week of classes	20%
During second week of classes	40%
During third week of classes	60%
During fourth week of classes	75%
During or after fifth week of classes	100%

During the two-week cancellation period for each session of the split third term, the tuition and housing charges will be made according to the following schedule:

During first week of classes	35%
During second week of classes	70%
During or after third week of classes	100%

Financial adjustments for tuition are based on the date the drop (withdrawal) form is finalized in registration.

Financial adjustments for housing are based on the date of checkout from housing, if applicable.

After classes have begun, the special course fees are not refundable, nor is the University fee for student activities.

All tuition refund requests and appeals must be in writing and directed to the attention of Nancy V. Graft, Bursar.

RESIDENCE FACILITIES POLICY

In accordance with University policy, all freshmen are required to live in University residence halls unless they are married, are 21 years of age or over, or are local residents living with their families.

Each student applying for a residence hall room must complete a housing contract card and send it along with a $50.00 reservation deposit to the Bursar's Office. The housing contract covers both the fall and the winter terms of the academic year.

The applicant may cancel the contract prior to June 15 without penalty. From June 15 until August 1, the contract may be cancelled, but the applicant forfeits the $50.00 reservation deposit. After August 1, the contract may not be cancelled by an applicant who attends the University during the fall term.

A student applying for January (winter term) admission may cancel the contract prior to December 1 without penalty. From December 1 until December 15 the contract may be cancelled, but the applicant forfeits the $50.00 reservation deposit. After December 15 the contract may not be cancelled by an applicant who attends the University during the winter term.

Those students dropping all courses and checking out from housing during the first four weeks of school will be authorized refunds as stated above under "Cancellation and Refunds."

All students living in residence halls are required to observe University regulations in general as well as the specific regulations of each hall, and they will be held responsible for any damage done through their own negligence to the structure in which they are housed. The same conditions shall also hold for any loss or damage to the University grounds, fixtures, furnishings, or other property provided by the University for use by the students.

Students may reside in their rooms without additional charge during Thanksgiving and Easter vacations. All University residences are closed during the Christmas vacation period.

ROOM AND BOARD, PER TERM, TERMS I AND II AUGUST 1985 THROUGH APRIL 1986

Housing Facilities

Residence Halls	Single	Double	Triple
Marycrest Complex	$855.00	$660.00	$625.00
Stuart Hall	855.00	660.00	
Founders Hall	855.00	660.00	625.00

Campus South apartments ..... $815.00 per occupant
Garden apartments ..... 815.00 per occupant
Off-Campus housing (U.D.-owned) ..... average $720.00 per occupant

An additional $30.00 refundable damage deposit is charged annually.

Food Service

Five-day meal service (Monday-Friday—15 meals) $593.00
Seven-day meal service (Monday-Sunday—20 meals) 706.00
Luncheon ticket (Monday-Friday) 199.00

Freshman students living on campus are required to purchase either five-day or seven-day meal tickets. Other students may purchase meal tickets or make their own daily arrangements. (Meals are also available on weekends.)

SPECIAL PAYMENT PLANS

For those who prefer to budget annual school costs out of monthly income, the following methods of payment are authorized. These methods will still allow full payment at the time of final registration.

Visa: Application and specific information about the Visa may be obtained at your local bank. The card may be used to meet all University collectable expenses within the credit limits for that card.

Master Card. Application and specific information about the Master Card may be obtained at your local bank. The card may be used to meet all University collectable expenses within the credit limits for that card.

For information on the following plans, contact the Financial Administrator, NDSL Program, University of Dayton, Bursar's Office.

The Tuition Plan, Inc.: The family may borrow that part of the college expenses they feel necessary and distribute the payments over a period of months. This loan program has conventional interest rates.

Academic Management Services, Inc.: The family may elect to make monthly payments, interest free, sufficiently in advance of registration to cover all or part of the annual fees over an extended period in equal installments.

Knight Insurance Agency, Inc.: The family may elect to make monthly payments under the Insured Tuition Payment Plan over the four years of college and earn interest on funds on deposit. If an extended period of time to pay is needed, the family may elect to use Knight's Extended Repayment Plan at a rate 4% above that paid on 91-day Treasury bills.

EXPENSES

The University of Dayton operates on a "split third-term calendar." Tuition and fees for full-time students during the 1985-86 academic year (fall and winter terms) will total about $5,260.00 plus laboratory and/or special course fees where applicable. Room and board on campus for this period would be approximately $2,732.00. Books and supplies will cost approximately $175 each term. In addition, the student will need funds to satisfy personal expenses and extra meals on the weekends.

Expenses for commuting students will include tuition, supplies, and miscellaneous living costs. Transportation to and from the University as well as lunches should be considered in the budget.

FINANCIAL AID POLICY

The University of Dayton desires to assist all qualified students who seek financial assistance in order to continue their education. In an effort to meet this goal, the University has established a complete and sound financial aid program, which includes scholarships, loans, grants, tuition reductions, and part-time employment.

The allocation of financial assistance is closely related to the student's demonstrated financial eligibility. Financial eligibility is the difference between the expense of attending college and the financial resources available to the student to meet expenses. It is basic policy of every college to expect that the parents will make a reasonable effort to assist with the student's college expenses from the family's resources. The student is also expected to make a contribution from savings and employment.

To assure the most equitable distribution of financial assistance, the University of Dayton uses the financial need analysis information provided by the family on the Financial Aid Form. The Financial Aid Form may be obtained from the high school counselor or from the Financial Aid Office at the University of Dayton and is to be sent, by the family, to the College Scholarship Service. The family's expected contribution to educational expenses is determined by considering their resources and factors influencing the use of these resources—number of dependents, current educational expenses of other family members, unusual medical expenses, retirement needs, and other special problems that deserve consideration.

Financial assistance from the University of Dayton must be viewed as supplemental to all other resources (parents' expected contribution, percentage of student's savings, student's summer earnings, state scholarships, state guaranteed loans, private scholarships, etc.) to meet the expenses of attending the University of Dayton. Financial aid awards are tailored to meet the student's particular eligibility for assistance. Eligibility and interest of the applicant determine the type of assistance offered. If possible, applicants and their parents should arrange to meet with a representative of the Financial Aid Office to discuss their particular circumstances so that the most appropriate assistance may be arranged.

All financial assistance, other than academic scholarships, is awarded for the academic year. A new application and a Financial Aid Form must be submitted each year for a student to be considered for loans, grants, or employment.

ACADEMIC SCHOLARSHIPS FOR ENTERING FRESHMEN

The President's Scholarship, the Dayton Area Scholarship, and the Marianist Scholarship were established to recognize excellent high school achievement by incoming freshman students. Applicants receive consideration for these scholarships on the basis of (1) high school academic performance; (2) SAT or ACT scores; (3) demonstrated service to school, community, and church; (4) evidenced leadership ability; and (5) citizenship. Each scholarship is renewable for eight consecutive undergraduate terms provided the recipient maintains at least a 3.0 (B) cumulative grade-point average and participates in University-sponsored extracurricular activities (other than social).

Application Procedure

This procedure is to be followed in applying for the President's Scholarship, the Dayton Area Scholarship, and the Marianist Scholarship.

1. Between September 15 and December 30 of your senior year in high school, request an application form from the Office of Scholarships and Financial Aid, University of Dayton, Dayton, Ohio 45469. Complete the application and return it to the Office of Scholarships and Financial Aid prior to January 15.
2. Arrange to take the Scholastic Aptitude Test (Mathematics and Verbal sections) or the American College Test no later than December. Indicate that your scores are to be sent to the University of Dayton. Scores made in earlier tests are also acceptable if your high school sends the results.
3. Obtain a Financial Aid Form from your high school principal or counselor, have your parents complete this form, and send it to the College Scholarship Service after January 1. Designate the University of Dayton as the recipient of the financial analysis. The Financial Aid Form is not a required part of the scholarship application. Academic scholarships are awarded on the basis of academic achievement; however, the submission of the Financial Aid Form will enable the Office of Scholarships and Financial Aid to identify financial aid opportunities available to you in addition to the academic scholarship.

All forms—the application and the recommendation section—should be completed as early as possible, but must be available to the University of Dayton Scholarship Committee by January 15.

Each scholarship applicant will be notified by March 15 of the decisions of the Scholarship Committee.

The President's Scholarships reward the academic excellence of high school seniors. Students in all curricula may apply for these scholarships, which range in monetary value from partial to full tuition for four years.

Dayton Area Scholarships are offered to top-ranking students in the greater Dayton area. Students in all curricula may apply for these scholarships, which range in monetary value from partial to full tuition for four years.

Marianist Scholarships are offered to top-ranking students attending Marianist high schools in designated areas. Students in all curricula may apply for these scholarships, which range in monetary value from partial to full tuition for four years.

ACADEMIC SCHOLARSHIPS FOR RETURNING STUDENTS

Students in full-time attendance who have completed at least 12 semester hours on campus at the University of Dayton are eligible to apply for Upperclass Scholarships. The Upperclass Scholarship Program at the University of Dayton was established to reward upperclass students for outstanding academic achievement and to recognize service to the University. Recipients are selected on the basis of academic accomplishments, leadership, demonstrated service to the University, and the strength of the recommendations of faculty and staff members. Each year approximately fifty students are chosen to receive these scholarships, which are awarded for a period of one academic year and range from $500 to $2,000.

Application Procedure

Upperclass scholarship applications are available in the Financial Aid Office, Room 202, St. Mary's Hall, during the period of Janury 15 through March 15 each year.

The application and two recommendations must be in the Financial Aid Office by March 15.

Each scholarship applicant will be notified by May 15 of the result of the Upperclass Scholarship application.

OTHER SCHOLARSHIP OPPORTUNITIES

Athletic Scholarships: The University of Dayton offers scholarships in some men's and women's intercollegiate sports to students who have demonstrated special athletic and academic promise. Recommendations for scholarship awards are made to the scholarship committee by the coach who has the responsibility for administering the particular sport. Correspondence should be directed to the head coach of the sport in which the applicant is interested.

ROTC Scholarships: U.S. Army ROTC financial assistance scholarships are awarded to outstanding ROTC cadets in all four academic years. They include all costs for tuition, fees, books, and supplies. Interested students should contact the Military Science Department for further information.

Additional Scholarships Administered by the University of Dayton: The University is authorized to select students as nominees for scholarships offered by certain corporations, business firms, service groups, and friends of the University.

APPLYING FOR GRANTS AND OTHER FINANCIAL AID

Application forms for grants, tuition reductions, loans, and employment may be obtained from the Office of Scholarships and Financial Aid, University of Dayton, Dayton, Ohio 45469. The following procedure must be completed each academic year:

1. Submit an application to the Financial Aid Office.
2. File a Financial Aid Form with the College Scholarship Service. (Forms may be obtained from the high school counselor or from the U.D. Financial Aid Office upon request.) Be sure to designate the University of Dayton as the recipient of the financial analysis.

GRANTS

Pell Grants (Federal—Basic Educational Opportunity Grant): The Basic Educational Opportunity Grant Program (Pell Grants) makes funds available to eligible students attending post-high-school institutions. To apply, you must complete a Financial Aid Form, checking "yes" on Item 45, and send the form to the College Scholarship Service. You may also apply by completing a Federal Student Aid Application. (You may get these forms from post-secondary educational institutions, high schools, Talent Search, and Upward Bound projects.)

Within four weeks, you will receive a Student Aid Report. Submit the report to the Financial Aid Office at the University of Dayton, which will calculate the amount of the Basic Grant you are eligible to receive. The amount will be based on the expected family contribution, the cost of attendance at the school, and a payment schedule issued to all approved educational institutions by the U.S. Department of Education.

Supplemental Educational Opportunity Grants (Federal): These federally supported, University-administered grants are provided to undergraduate students who have financial need. Eligibility for the grant and the stipend is governed by the rules and regulations of the United States Department of Education. The student must also receive assistance from certain other sources, in an amount at least as great as the amount of the grant. The value of this grant ranges from $200 to $2,000 per year. The completion of an application for student aid assures the applicant of consideration for this type of assistance.

Ohio Instructional Grants (State) are intended to assist Ohio residents to attend institutions of higher education within the state of Ohio. Awards are made on the basis of gross family income and not on the basis of academic performance. They presently range from $192 to $2,604 for students at private colleges and universities (such as the University of Dayton). Each recipient of the Ohio Instructional Grant must (1) be a resident of Ohio, (2) be enrolled or accepted for enrollment as a full-time undergraduate student in an Ohio institution of higher education, (3) be making "appropriate progress" toward an associate or bachelor's degree, and (4) meet the financial guidelines established by the Ohio Board of Regents. Students enrolled in courses of study leading to degrees in theology, religion, or other fields of preparation for a religious profession are not eligible. An application packet may be obtained from the high school counselor or the Financial Aid Office at the University of Dayton. It is strongly recommended that the student arrange an interview with the Financial Aid Office so that the application can be discussed and tentative eligibility be determined.

Tuition Remission Grants (University): The University of Dayton offers nonrepayable grants to students with demonstrated financial need who are not receiving nonrepayable assistance from another source. The University assumes that the student will provide self-help in the form of loans and school-year employment for 75% of the need, or $3,000, whichever is less. The Remission Grant or nonrepayable assistance from other sources will cover the remainder of the demonstrated need. The maximum Remission Grant is $2,400.

University of Dayton Grant: The University has funds available which are reserved for students in extreme or exceptional financial need. Grants of this nature are usually included in the package of assistance arranged by the Financial Aid Office. Although recipients are not required to repay these grants, they should, when they achieve sufficient financial status, accept the obligation of reimbursing the University so that other deserving students may stay in school.

Kettering Grant: Graduates of Montgomery County (Ohio) high schools in the upper 25% of their graduating class who come to the University of Dayton as full-time entering freshmen and who demonstrate financial need may be eligible for the Kettering Grant. The maximum Kettering Grant is $2,400 per year and may be received for four years on condition of continued eligibility.

Montgomery County Grant: Graduates of Montgomery County (Ohio) high schools who come to the University of Dayton as full-time entering freshmen and who are not eligible for other forms of nonrepayable grants from federal, state, or University sources may be eligible for the Montgomery County Grant. The maximum Montgomery County Grant is 15% of tuition per year and may be received for four years.

The John Westendorf Educational Fund was established to assist deserving students who have graduated from Dayton high schools. The Director of Financial Aid will use funds from this source to supplement other financial assistance offered to such students. Each graduate of a Dayton high school who applies for financial assistance will be considered. The parents' and the student's responsibility to finance an education will be considered, and when unusual circumstances prevail, the Director of Financial Aid may utilize funds from the John Westendorf Educational Fund to assist those deemed worthy. A student receiving assistance from this fund is expected to achieve a 2.0 cumulative grade point average and participate in at least one extracurricular activity. Renewal of this grant will be at the discretion of the Director of Financial Aid.

LOANS

National Direct Student Loans are available to those applicants who have demonstrated need for assistance to pay the actual costs of attending school. A student is eligible to borrow only that amount which is needed to supplement other resources to meet expenses. The maximum loan for undergraduates is $3,000 for the first two years of undergraduate work and $6,000 total. The recipient enters the repayment cycle six months after ceasing to carry at least half the normal full-time academic load. When the recipient enters the repayment cycle, a five percent simple interest charge is included. Recipients who teach economically, emotionally, mentally, or physically handicapped children may receive cancellations of the loan. Other cancellation privileges are available.

Guaranteed Student Loans (GSL) are particularly useful to students from middle- and upper-middle-income families. A student whose 1984 family income is less than $30,000 may borrow up to $2,500 per year. A student whose family income exceeds $30,000 must demonstrate need. Many from families with incomes in excess of $30,000 do qualify. A five-member family with one in college and an income up to $50,000 would qualify for a Guaranteed Student Loan at the University of Dayton. With two family members in college, the family income could be much greater, and the students would be eligible to obtain this loan.

Parent's Loan for Undergraduate Students (PLUS) provides a source of financing to all families regardless of the family income. All parents of undergraduate students may borrow up to $3,000 per academic year to an aggregate total of $15,000 for each student attending an accredited college. Repayment begins within sixty days after the disbursement of the check. During the repayment period an interest rate of 12% is charged. In general, a lender will allow a borrower at least five years, but not more than ten years, to repay a loan. Minimum payments on the loan are $50 per month. The combined amount a parent and student may borrow in an academic year may not exceed the cost of attendance less any other financial aid received by the student.

Emergency Loans are available to students who encounter unexpected financial problems during the year. The student has a one-year repayment period. No interest is charged on these loans, which are, however, contingent upon sufficient funds.

TUITION REDUCTIONS

The University of Dayton awards tuition reductions to qualified, full-time undergraduate students in good standing. No student or family is eligible to benefit from more than one of these reductions at the same time. The reductions are not automatic. A student must complete an application each academic year in the Office of Financial Aid. It is preferred that the student make application by April 30 for the following academic year.

Sibling Reduction: A reduction of $200 per term is available to families who are supporting two unmarried dependents simultaneously at the University of Dayton. The recipient and the sibling must be attending as full-time undergraduate students. The third member of the same family and each additional member in attendance shall be eligible for a 50% reduction in tuition.

Employee Reductions: Unmarried dependent children and the spouses of full-time employees, as well as the employees themselves, are eligible for tuition reductions for undergraduate courses. Employees and spouses of administrative, professional, or faculty employees are also eligible for tuition reductions for graduate courses. Interested students should contact the Office of Personnel Services to complete necessary forms or to get further information regarding eligibility.

Guests Over 60: Students over 60 years of age are eligible to apply to the Office of Continuing Education at the University of Dayton for remission of tuition.

EMPLOYMENT

The College Work-Study Program, federally supported, provides on-campus and off-campus work opportunities for full-time to half-time students who request employment and demonstrate financial need for employment to meet educational expenses. Such a student may work up to 20 hours per week during the school term and will receive payroll checks semi-monthly for these services. When possible, a student will be employed by the University in a job related to his or her educational objectives.

Institutional Employment opportunities for students who do not qualify for the College Work-Study Program are available through the Student Employment Coordinator, Room 202, St. Mary's Hall. Any interested student should complete an Application for Employment and schedule an appointment with the Student Employment Coordinator. Interviews should be scheduled as soon as the student knows what his or her class schedule will be for the period of employment.

Cooperative Education, "the co-op system," allows students to alternate terms of on-campus study and terms of off-campus work at jobs related to their academic concentrations. Several departments at the University of Dayton participate. See Chapter X, Cooperative Education.

ADDITIONAL OPPORTUNITIES

G.I. Bill: To be eligible for benefits under the G.I. Bill, any veteran of the Army, Navy, Marine Corps, Air Force, or Coast Guard must have served continuously on active duty for at least 181 days ending after January 31, 1955, and have received an honorable discharge. A veteran whose active duty was ended by a service-connected disability need not meet the 181-day requirement. Persons still in the service are eligible if they have had at least two years of active duty. Applications may be obtained from any Veterans Administration Office or the Veterans' Affairs Office.

Junior G.I. Bill: Educational opportunities are available to children of veterans who died or were permanently and totally disabled in or as the result of service in the Armed Forces of the United States during specified time periods. Application must be filed with the Veterans Administration by a parent or guardian.

The U.S. Army Education Program (Project Ahead) is an opportunity to accumulate academic credit from the University of Dayton while serving in the U. S. Army. When the tour of duty is over, degree requirements are completed at the University. Anyone who meets the entrance requirements of the University of Dayton and who is enlisting in or is enlisted in the U. S. Army is eligible. Application blanks are available in the Admissions Office.

Vocational Rehabilitation: State vocational rehabilitation agencies arrange the training of handicapped persons for gainful employment. Requests for information on rehabilitation services should be directed to the State Director, Vocational Rehabilitation Agency, the State Capitol.

The U.S. Army Reserve Officers Training Corps (ROTC) program is offered on campus by the Department of Military Science. All students who complete the basic course (freshman and sophomore years) may enroll in the advanced course (junior and senior years), leading to a reserve commission in the Army at the time of graduation. During the advanced course, the student who has agreed to accept the commission and serve two years' active duty receives $100 a month subsistence. For further information, see MIL, Chapter VI.

Ohio National Guard Tuition Grant: The Ohio National Guard offers a tuition grant to eligible members. This grant pays partial tuition for those members enrolled as full-time students. The grant is limited to undergraduate studies only. For further information and application forms contact your local Ohio National Guard Armory.

V Academic Regulations

GENERAL REQUIREMENTS

All bachelor's degrees granted by the University of Dayton require a minimum of 120 semester hours of credit with a cumulative grade point average of at least 2.0.

Specific requirements for the various degrees are listed under the schools granting the degrees. See Chapters VI-IX.

One year (thirty semester hours) of residence is a minimum requirement for any bachelor's degree.

The semester hour is the unit by which the University measures its course work, and the number of semester hours is determined by the number of hours a week in class and the number of weeks in the session. One semester hour is assigned to a class which meets fifty minutes a week over the period of one term.

Students enrolled in the University as candidates for degrees should not take courses at other colleges or universities without first obtaining written permission from their respective deans. If the permission is granted, the dean will request "transient status" for such students at designated institutions. The University reserves the right not to accept credits for such courses when this procedure has not been followed.

The Bachelor of Science in Education may be awarded to holders of nonprofessional degrees from the University of Dayton with the completion of a minimum of thirty semester hours prescribed by the School of Education beyond the requirements of the nonprofessional degree. The Bachelor of Arts or Bachelor of Science may be awarded to holders of professional degrees from the University of Dayton upon the completion of the requirements for such degrees. Any student wishing to obtain a second bachelor's degree may do so by completing the requirements for the second degree as determined by the faculty of the college or school in which this degree is offered.

Ordinarily a student who earned a first bachelor's degree or an associate degree at another institution must complete six semester hours of philosophy and/or religious studies at the University of Dayton. Such a student may be required to complete the prescribed twelve semester hours of philosophy and/or religious studies if in the judgment of the dean equivalent coursework had not been earned as a part of the program leading to the first degree.

All students following four-year programs are required to complete successfully the University requirements in basic skills and general education as explained below.

BASIC SKILLS REQUIREMENTS

READING AND WRITING SKILLS

The University requirement in reading and writing skills is satisfied by the completion of ENG 101 and ENG 102. Students whose verbal scores on the SAT or ACT are sufficiently high to warrant placement in ENG 114 upon admission to the University or whose acceptance into the University Honors Program places them in ENG 198 satisfy the University requirement with those

one-semester courses, each the equivalent of ENG 102 as a prerequisite for 200- and 300-level English courses. Students who are placed in ENG 114 or ENG 198 do not receive credit for ENG 101 but are free to take elective course work in place of the waived first semester of freshman composition. Students whose verbal scores on the SAT or ACT do not meet placement criteria for ENG 101 must enroll in a developmental writing course. (See DEV, Chapter X.) Students for whom English is a second language must take a placement test administered by the Department of English. Particulars about the freshman courses and testing procedures can be obtained from the chairperson or the director of composition, Department of English.

SPEAKING AND LISTENING SKILLS

The University requirement in speaking and listening skills is satisfied by successful completion of SPE 101. Some entering freshmen may possess sufficient evidence of these skills to qualify for a special waiver examination for the course. Students desiring information on eligibility for the waiver examination should inquire in the offices of their respective deans.

MATHEMATICAL SKILLS

All students at the University of Dayton are required to demonstrate a knowledge of basic algebraic manipulations. Many students will satisfy this requirement by taking the more advanced mathematics courses that their major programs require. All business students fulfill this basic skills requirement with MTH 110 or MTH 111. All engineering and science students satisfy the requirement with MTH 101 or MTH 118. All social science students satisfy the requirement with MTH 101 or MTH 112. Students whose programs would not otherwise require them to take mathematics courses can satisfy the basic skills requirement in mathematics with MTH 107. The requirement can also be satisfied by passing a competency examination over the material covered in the MTH 107 course. Students whose mathematical skills are weak may need some special assistance. They should seek it at the Learning Assistance Center at the University of Dayton. (See Chapter II; see also DEV, Chapter X.)

GENERAL EDUCATION REQUIREMENTS

The General Education Program at the University of Dayton is an expression of the University's commitment to students' academic, cultural, and ethical development. Its purpose is to make students aware of the diversity of knowledge and theory represented by the various disciplines as well as to prepare them to become thinking, tolerant, humane, and productive members of society, capable not only of understanding their world and the many kinds of people in it but also of taking responsibility for their own decisions and their own lives. There are five major parts to the general education requirements:

Historical Study—6 semester hours—to acquaint students with the importance of western civilization in their lives and in society and with the role that history has had in the development of various professions.

Physical and Life Sciences—6 semester hours—to acquaint students with the methodology of science and its applications through technology because the potential of science and technology both to assist and to threaten society will undoubtedly increase in the future.

Social Sciences—3 semester hours—to help students understand how people live within societies, how they relate to one another as individuals, in small groups, institutionally, and internationally.

Arts Study—3 semester hours—to provide students with the opportunity to develop an appreciation of the literary, visual, or performing arts. Experience confirms that life is immeasurably enriched by an appreciation of the arts.

Philosophy and Religious Studies—12 semester hours—to deepen students' knowledge of western religious and philosphical traditions, which is vital in developing personal principles and values. Religious studies and philosophy hold a special place at the University of Dayton. As a church-related institution, the University seeks to foster principles and values consonant with Catholicism.

Courses that have been approved by the University for general education credit are listed below according to the parts of the general education requirements that they may serve to satisfy. These courses are marked by asterisks (*) where their descriptions appear under Courses of Study in individual departmental sections of this bulletin. See also current issues of the Undergraduate Composite of Courses for additional approved general education courses.

It is up to each department to determine whether its majors are free to choose from among all the approved nonrestricted courses, are to choose from among a limited number of approved courses, or are required to take only specific approved courses. The University has approved some courses for certain majors exclusively, and those courses are therefore restricted to those majors for general education credit. For example, English majors may not take HST 370, Economic History of the United States, to satisfy the Historical Study II requirement. Students should consult their advisors to learn which courses are permissible in their own majors.

HISTORICAL STUDY

Students must take either two approved courses in Historical Study I (6 sem. hrs.) or one approved course in Historical Study I and one approved course in Historical Study II (6 sem. hrs.). The restrictions on certain Historical Study II courses apply both to the majors indicated and to secondary education majors whose principal teaching fields are in those disciplines. For example, HST 340, History of Science, is approved both for chemistry majors and for those secondary education majors whose principal teaching field is chemistry. (Education students should see checksheets.)

Historical Study I		*Restrictions*
HST 101	History of Western Civilization from its Classical Roots to the French Revolution	
HST 102	History of Western Civilization Since 1789	
Historical Study II		
ART 184	Visual Fundamentals	for ART, EAR only
COM 430	Development of Mass Media	for COM only
EDP 275	History of Physical Education and Sport	for EDP only

EDT	200	History of Education Since 1789	for education only
ENG	301	Survey of Early English Literature	for ENG only
ENG	302	Survey of Later English Literature	
ENG	305	Survey of American Literature	
ENG	306	Survey of Continental Literature	
HST	251	American History to 1865	
HST	252	American History Since 1865	
HST	314	Twentieth-Century Europe	
HST	322	History of England	for ENG only
HST	340	History of Science	for sciences, engineering, CPS, EDH, HEC, MTH only
HST	341	Historical Perspectives on Science, Technology, and Society	
HST	355	American Urban History	for CRJ, HEC, SOC, SWK only
HST	370	Economic History of the United States	for business, B.A. ECO, SWK only
HST	376	Social and Cultural History of the United States	for AMS, COM, CRJ, REL, SWK only
HST	405	Medieval Europe	for ENG, PHL, REL only
HST	424	English Constitutional and Legal History	for pre-law only
HST	460	U.S. Legal and Constitutional History I	for pre-law, CRJ only
HST	465	History of American Business	for business, B.A. ECO, COM only
HST	466	History of Science, Technology, and the Modern Corporation	for business, engineering, sciences, B.A. ECO, CPS, EDH, HEC, MTH only
MUS	301	Music History and Literature I	for MUE, MUS only
PSY	471	History of Psychology	for PSY only
SET	301	The Technological Society I	for engineering technology only
THR	415	History of Theatre I	for THR only

PHYSICAL AND LIFE SCIENCES

Students must take either one approved course in Physical and Life Sciences I and one approved course in Physical and Life Sciences II (6 sem. hrs.) or two approved courses in Physical and Life Sciences II (6 sem. hrs.).

Physical and Life Sciences I

BIO	101	General Biology I	
BIO	114	Biological Science	
BIO	152	Concepts of Biology II	
CHM	110	General Chemistry	
CHM	115	College Preparatory Chemistry	
CHM	123	General Chemistry	
CHM	124	General Chemistry	
EDD	305	Human Anatomy	for BET, EDH, EDP, MUT only
EDD	306	Human Physiology	
GEO	109	General Geology	
GEO	115	Physical Geology	
PHY	108	Physical Science of Light and Color	

PHY	151	Concepts in Physics	
PHY	201	General Physics	
PHY	203	Modern Technical Physics	
PHY	206	General Physics I—Mechanics	
PHY	207	General Physics II—Electricity and Magnetism	

Physical and Life Sciences II

BIO	102	General Biology II	not for BIO, DEN, MED
BIO	301	Evolution	
BIO	390	Physiology of Sex and Fertility Regulation	for FAD only
BIO	395	Biology and Social Issues	
BIO	398	Heredity and Society	
BIO	412	General Genetics	
CHM	496	Professional Practices Seminar	for CHM only
CPT	122	General Chemistry	for EET, MCT only
CPT	214	General Chemistry with Case Studies	
CPT	215	The Chemical Industry—Technology and Issues	
PHY	105	The Physical Sciences	
PHY	109	Science and Understanding	
PHY	152	Concepts in Physics	
PHY	202	General Physics	
PHY	208	General Physics III—Mechanics of Waves	
PHY	250	Descriptive Astronomy	

SOCIAL SCIENCES

Students must take one approved course in this area (3 sem. hrs.).

ANT	150	Cultural Anthropology	
ECO	203	Principles of Microeconomics	
ECO	204	Principles of Macroeconomics	
HEC	318	Family Living	
HEC	321	Consumer and Society	
HEC	341	Social Issues in Consumerism	
POL	101	Government and Society	
PSY	341	Social Psychology	
SET	302	The Technological Society II	for engineering technology only
SOC	204	Modern Social Problems	
SOC	331	Marriage and the Family	
SWK	101	Social Welfare and Society	

ARTS STUDY

Students must take one approved course in this area (3 sem. hrs.).

ART	181	Art Appreciation
ART	183	Visual Fundamentals
ENG	203	Major British Writers
ENG	204	Major American Writers
ENG	205	Major World Writers

ENG	350	European Literature of Antiquity
ENG	351	European Literature of the Middle Ages
ENG	353	Literature of the Renaissance
ENG	354	Literature of the Enlightenment
ENG	355	Literature of the Romantic Age
ENG	356	European Literature of the Nineteenth Century
ENG	357	Literature of Early Twentieth-Century Europe
ENG	358	Contemporary Literature of Europe
ENG	362	Shakespeare
MUS	302	Music History and Literature II
THR	105	Introduction to Theatre

PHILOSOPHY AND RELIGIOUS STUDIES

Students must take four approved courses (12 sem. hrs.). At least one of these must be an introductory course, one an intermediate course, and one a capstone course.

Philosophy and Religious Studies—Introductory

PHL	103	Introduction to Philosophy	
REL	140	Catholicism Today	
REL	146	Dynamics of Religion	
REL	150	Religion and Values	for NEH Core only

Philosophy and Religious Studies—Intermediate

PHL	201	Practical Logic
PHL	304	Philosophy of Human Nature
PHL	306	Philosophy of Knowledge
PHL	307	Philosophy and Women
PHL	308	Metaphysics
PHL	310	Social Philosophy
PHL	311	Philosophy of Religion
PHL	312	Ethics
PHL	318	Family Ethics
PHL	323	Philosophy and Literature
PHL	330	Philosophy of Science
PHL	350	Classical Greek Philosophy
PHL	351	Classic Islamic, Christian, Jewish Philosophy
PHL	352	Modern Philosophy
PHL	353	Contemporary Philosophy
PHL	356	Christian Philosophy
PHL	358	Marxist Philosophy
PHL	359	Phenomenology
PHL	360	Existentialism
PHL	361	American Philosophy
REL	202	Religions of the World II
REL	211	Old Testament in Modern Study
REL	212	New Testament in Modern Study
REL	265	Christian Ethics

Philosophy and Religious Studies—Capstone

EDT	419	Philosophy of Education	for education and E-11 only
PHL	313	Business Ethics	

PHL 314 Philosophy of Law
PHL 315 Medical Ethics
PHL 316 Engineering Ethics
PHL 317 Ethics and Nuclear War
PHL 320 Philosophy of Art
PHL 331 Science, Objectivity, and Values

GRADES AND SCHOLARSHIP

Final grades are submitted at the end of the term, and these are made part of a student's permanent record in accord with the option chosen by the student. Copies of these reports are given to the students and deans. A progress report of every freshman in each of the classes is submitted to the Registrar by every instructor at the middle of each term.

Undergraduate students are permitted a selection from two alternative grading options. The course grading options are as follows:

Option 1—A, B, C, D, F

Option 2—S/NC—Satisfactory (A, B, C)/No Credit (D, F)

A student must take at least seventy-five per cent (75%) of the semester hours in the degree program under option 1, subject to further restrictions set by the college, the professional school, or the department in which he or she is a major, and excepting special programs at the discretion of the deans. NOTE: Studies have shown that Satisfactory/No Credit grades (option 2) on one's academic record may be a negative factor in the evaluation of application for transfer to some undergraduate schools, for admission to most professional schools (law, medicine, etc.) and many graduate schools, and for employment in some fields.

The official marks with their meanings and quality point values are as follows:

A — Excellent; for each semester hour, four quality points are allowed.

B — Good; for each semester hour, three quality points are allowed.

C — Fair; for each semester hour, two quality points are allowed.

D — Poor but passing; for each semester hour, one quality point is allowed.

F — Failed. This mark indicates poor scholastic work, or failure to report withdrawal from a course. In such cases, required courses must be repeated, preferably at the next opportunity. A student may not take the course a third time unless at the time of the second failure he or she has a cumulative point average of 2.5 or higher. Under no circumstances will any student be permitted to take a course a fourth time.

S — Satisfactory. This mark indicates credit given for a course taken under grading option 2, C or above. The S credit shall be counted as hours only and shall not be considered in determining a student's cumulative point average.

NC—No Credit. This mark indicates no credit given for a course taken under grading option 2, below C. In such cases, required courses must be retaken, preferably at the next opportunity. The student may not take the course a third time unless at the time of the second failure he or she has a cumulative point average of 2.5 or higher. Under no circumstances will any student be permitted to take a course a fourth time.

I — Incomplete. This grade indicates that the student has obtained the instructor's recommendation, subject to the chairperson's approval, to complete

some portion of the work of the term that for reasons beyond the student's control was not completed before the end of the term, provided that the rest of the work has been of satisfactory grade. An I must be removed within thirty days from the date listed on the grade report, or it will be changed to an F or NC (option 2) on the student's permanent record. The time limit may be extended under exceptional circumstances, with the approval of the dean, if application for the extension is made within the thirty-day period noted.

W — Withdrawn. During the first three weeks of a full term (or the first eight class days of a split term) a student may withdraw from a class without record by obtaining a drop (withdrawal) form from the Registration Office, having it signed by the academic advisor, and processing it. Beginning with the fourth week of the term and continuing through the fourth week after mid-term (or the ninth class day of a split term and continuing through the fourth week of the split term), a student may withdraw with a W by the same process, except that the drop form must have the approval signature of the instructor as well as that of the advisor. For the remainder of the term, until the last day of classes, a student may withdraw with a W only by making a formal request to the dean, who consults with the student's instructor before granting such a request. During this period a W will be permitted only for special nonacademic reasons, which include, but are not limited to, poor personal health, financial difficulties, family matters of health, and change in career objectives. When a student finds it necessary to withdraw from the University, for any reason whatsoever, it is important that the dean be notified immediately. Financial adjustments, if allowed, will be made only from the date on the withdrawal form. Total withdrawal from all classes requires the processing of the drop form. This requires two signatures—the Dean and the Vice President for Student Development, or the designated authority for that signature. It is the student's responsibility to initiate and process all withdrawals; the faculty do not initiate withdrawals for students except for auditors. See X below. In addition, the student is urged to process the withdrawal as soon as possible after deciding to drop a course. Students cannot assume that a withdrawal is granted automatically if they stop attending class. Any failure to process the drop (withdrawal) form will incur a grade of F for the course or courses involved. The F's so accumulated are always included in the cumulative point average.

P — In Progress. This symbol is used in lieu of a grade for a course which has not terminated at the end of a term or summer session. A grade with corresponding credit and quality points (see grading options 1 and 2) will be assigned when the course has been completed.

N — No grade was reported by the instructor.

K — Credit. This mark is used only for credits accepted as transfer credit from other institutions. No quality points are allowed. K credit is not allowed for English courses taken at institutions in countries where the native language is other than English.

X — Audit. This mark indicates that the student has registered to audit the course. No credit hours or quality points are awarded for this mark. Any course taken for audit may not be retaken for credit. If, in the opinion of the instructor, a student has not attended and participated in a sufficient number of classes, the instructor will assign a W.

Em — Examination. This mark indicates University of Dayton credit given to a student on the basis either of the Advanced Placement Program of the CEEB or of examinations taken prior to or after admission to the University. The required level of achievement on these examinations is determined by the department in which the course is taught. This credit shall be assigned only on authorization of the dean of the school or college in which the student is registered. No quality points are allowed. A student must be registered at the University of Dayton to obtain credit. Em credit is limited to 24 semester hours (exclusive of CLEP General Examination credits).

NO GRADE CHANGE OF ANY KIND IS PERMITTED AFTER THIRTY DAYS FROM THE DATE LISTED ON THE GRADE REPORT.

The University reserves the right to change the grading system.

GRADE POINT AVERAGES

The SEMESTER GRADE POINT AVERAGE is the total number of quality points divided by the number of semester credit hours carried by the student under option 1.

The CUMULATIVE GRADE POINT AVERAGE is computed from the semester grade point averages. If a course is repeated, the grade points for both the original grade and the new grade are computed. Marks of I, K, N, P, S, W, X, NC, and Em are disregarded in the computation of the CGPA, but a course for which an F is received is included in the usual manner.

ACADEMIC STANDING

The student's academic standing is determined by the cumulative grade point average at the end of each term.

1. To be in good academic standing, a student must have a cumulative grade point average of (a) at least 1.7 at the end of the first and second terms, (b) at least 1.8 at the end of the third term, (c) at least 1.9 at the end of the fourth term, and (d) at least 2.0 at the end of the fifth and succeeding terms. For part-time and transfer students, a block of 12 semester hours of credit is considered one term. A cumulative grade point average of at least 2.0 is required for graduation.

2. A cumulative grade point average below the one required will place the student on academic probation. The student's academic dean will notify the student of his or her probationary status. A student on probation must follow a restricted academic program not to exceed 15 semester hours.

3. It is the responsibility of any student on probation to complete an academic contract with the dean for the purpose of determining the nature and limitations of the student's future activities.

4. Students whose academic performance has seriously impaired their ability to succeed academically at the University of Dayton are subject to dismissal. A student who is subject to academic dismissal can be dismissed only by his or her academic dean, who authorizes the dismissal and notifies the student of his or her status. Students who are subject to dismissal include (a) those who fail

to achieve good standing at the end of a term on probation and (b) those who have a term point average of less than 1.0, regardless of cumulative grade point average.

5. The registrar will post "Academic Dismissal" on the permanent record of any student who is dismissed.

DEAN'S LIST

At the conclusion of each term, in both the college and the professional schools, any full-time student who has achieved a superior academic record (a grade point average of 3.5 or above) for that term is named to the dean's list.

HONORS

1. To be eligible for consideration for honors graduation, students must have completed seventy-five per cent (75%) of the semester hours taken at the University of Dayton under the standard grading option, option 1 (A, B, C, D, F).

2. To be graduated with honors, a student must have a cumulative point average at the end of the seventh and/or eighth term at the University of 3.5 or higher, based on 4.0

3. If a student qualifies for honors or moves into a higher category of honors on the basis of his or her graduation cumulative grade point average, mention will be made at the commencement exercises, notation will be made on the transcript and permanent record, and an appropriate honors key will be awarded belatedly.

4. A transfer student who has fulfilled the University's minimum residence requirements is eligible for honors, provided that all grades received at previous institutions and grades received at U.D. result in a cumulative grade point average of 3.5 or higher based on 4.0 and the student has met all the other requirements stated in this policy. The category of honors will be determined by (a) the combined cumulative grade point average, if the average for U.D. courses is higher than the combined average, or (b) the U.D. cumulative grade point average, if the combined cumulative grade point average is higher than the U.D. average. That is, transfer students will not be given honors at a level higher than the U.D. grade average.

5. The notation of honors is made in the commencement program, on the diploma, on the student's permanent record, and on the transcript, as follows:
Cum Laude—if the cumulative point average is between 3.5 and 3.69;
Magna Cum Laude—if the cumulative point average is between 3.7 and 3.89;
Summa Cum Laude—if the cumulative point average is between 3.9 and 4.0.

6. Any exceptions to this procedure are the decision of the provost.

CLASS ATTENDANCE

It is desirable for students to attend all classes. Listening to the lectures of instructors and being involved in classroom discussions should (1) provide guidelines and goals in the course of study, thus lending direction to the study activities of the student; (2) provide instances of the way of thinking and methodology employed by an academic discipline in formulating and solving

problems; (3) stimulate an awareness of and interest in the course topics beyond the levels acquired by textbook reading. Because textbook material is generally beneath the level of the current state of knowledge, instructors acquaint the student with new ideas and integrate this material into the course topics.

Policy

For the above reasons, students are expected to attend all classes. Indeed, academic departments may authorize a legitimate attendance requirement for some courses (seminars, laboratories, performance courses, clinical field-based courses, and the like). If attendance or class participation is a component in determining the final grades in a course, the syllabus for the course must announce that fact and the relative weight of attendance or participation. It is felt that upperclassmen, i.e., sophomores, juniors, and seniors, can otherwise be relied upon to display sufficient maturity to assume the responsibilities of attending class. Let it be noted, however, that to insure the accuracy of records, every student must be present at classes during the first week of each term.

Students are responsible for being aware of the proceedings and material covered in each class period. Students must attend all announced tests and submit assigned written work on the date set by the instructor; it is recommended that the instructor announce such tests and assignments at least a week in advance. The action taken as a consequence of missing a test or an assignment will be determined by the instructor and will be based on a consideration of the individual circumstances involved.

To assist freshmen in their transition to college responsibilities, it is felt that a policy of compulsory attendance is necessary. Therefore, freshmen will be permitted only a limited number of absences. For freshmen, the allowable number of absences in the first term or in the second term will be equal to twice the number of class meetings per week, i.e., six absences for a class meeting three times a week (or four class days in any third-term session). A student exceeding this number will not be permitted to continue in the class unless presenting justifiable reasons for the absences to the Attendance Appeals Committee. Any student who has not accrued 30 semester hours of credit is considered a freshman.

The handling of tardiness is left to the discretion of the instructor.

TRANSCRIPTS

A transcript of the permanent academic record is a confidential document to be released in compliance with the regulations of the Family Educational Rights and Privacy Act of 1974 as amended. The Registrar will issue transcripts upon a request signed by the student. All transcripts so requested require payment in advance. See "Other Charges" in Chapter IV, Financial Information. Complimentary copies will be mailed to graduates within approximately six weeks after graduation.

PRIVACY RIGHTS OF PARENTS AND STUDENTS

In compliance with Section 438 of the General Education Provisions Act the University of Dayton has published regulations designed to protect the privacy of parents and students as to the access to and the release of records maintained by this institution. (See University of Dayton Student Handbook.)

AWARDS

Special awards for exceptional scholastic achievement are given annually through the generosity of donors. To be eligible for any of these awards, a student must have a cumulative point average of at least 3.0. The awards:

Accounting—The Accounting Career Award to the student exhibiting the greatest potential in public accounting—donated by Deloitte, Haskins and Sells.

Accounting—The Award of Excellence to the Outstanding Senior in Accounting—donated by Jerome E. Westendorf, '43, and Warren A. Kappeler, '41.

Anthropology—The Margaret Mary Emonds Huth Memorial Award of Excellence to the Outstanding Senior in Anthropology—donated by Dr. Edward A. Huth.

Arts and Sciences—The Dean Leonard A. Mann, S.M., Award of Excellence to the Outstanding Senior in the College of Arts and Sciences—donated by Joseph Zusman, '65.

Athletics Citizenship Award—The Reverend Charles L. Collins, S.M., Award of Excellence to an athlete for outstanding citizenship—donated by Joseph Zusman, '65.

Biology—The John E. Dlugos, Jr., Memorial Award of Excellence to the Outstanding Senior majoring in Biology—donated by Mr. and Mrs. John E. Dlugos.

Biology—The Brother Russell A. Joly, S.M., Award of Excellence to the student who best combines excellence in Biology and genuine appreciation of nature.

Business Education—The National Business Education Association Award of Merit in recognition for outstanding achievement.

Campus Ministry—The Brother Wottle Campus Ministry Award: "An award of appreciation for service to Campus Ministry."

Campus Ministry—The Marianist Award for Voluntary Service to a graduating senior who has distinguished himself or herself through voluntary service to the community—donated by the Marianists of the University of Dayton.

Chemical Engineering—The Victor Emanuel, '15 Award of Excellence to the Outstanding Senior in Chemical Engineering—sponsored by the University of Dayton Alumni Association since 1962.

Chemical Engineering—The Robert G. Schenck Memorial Award of Excellence to the Outstanding Junior in Chemical Engineering—donated by Stanley L. Lopata.

Chemistry—The Brother George J. Geisler, S.M., Award of Excellence to the Outstanding Student in Chemistry—donated by Joseph Poelking, '32.

Chemistry—American Institute of Chemists' Award.

Chemistry—American Chemical Society Award.

Chemistry—The Brother John J. Lucier, S.M., Award of Excellence to the Outstanding Junior majoring in Chemistry—donated by a friend.

Chemistry—The Philip Zaidain Memorial Award to a deserving sophomore majoring in Chemistry.

Civil Engineering—The Harry F. Finke, '02, Award of Excellence to the Outstanding Senior in Civil Engineering—sponsored by the University of Dayton Alumni Association since 1962.

Civil Engineering—The George A. Barrett, '28, Award of Excellence to the Outstanding Junior in Civil Engineering—donated by family and friends in his memory.

Communication Arts—The Si Burick Award of Excellence for Outstanding Academic and Cocurricular Achievement in Mass Media Arts—donated by the University of Dayton.

Communication Arts—Speech Arts—The Reverend Vincent Vasey, S.M., Award of Excellence to the Outstanding Senior in Speech Arts—donated by the Reverend Vincent Vasey, S.M.

Communication Arts—The Omar Williams Award of Excellence to an outstanding student in Broadcasting—donated by the University of Dayton.

Communication Arts—Public Relations—PRSA Maureen M. Pater Award of Distinction to the Outstanding Senior in Public Relations—donated by Dayton-Miami Valley Chapter of the Public Relations Society of America.

Computer Science—The NCR Award of Excellence in Computer Science to an outstanding junior majoring in Computer Science—donated by The NCR Foundation.

Computer Science—The NCR Award of Excellence in Computer Science to an outstanding senior majoring in Computer Science—donated by The NCR Foundation.

Computer Science—Alumni Award of Excellence in the Senior Class.

Continuing Education—The Nora Duffy Award to a reentry student who has overcome significant obstacles in order to complete a college degree.

Cooperative Education—Award of Excellence to the Outstanding Cooperative Education Student in Business Administration—sponsored by the Mead Corporation Foundation.

Cooperative Education—Award of Excellence to the Outstanding Cooperative Education Student in Computer Science, Data Processing—sponsored by the Marathon Oil Foundation.

Cooperative Education—Award of Excellence to the Outstanding Cooperative Education Student in Engineering—sponsored by the Dayton Power and Light Company.

Cooperative Education—Award of Excellence to the Outstanding Cooperative Education Student in Engineering Technology—sponsored by Earl C. Iselin, Jr., in honor of his father.

Criminal Justice—The Sheriff "Beno" Keiter Memorial Scholarship Award to the Outstanding Criminal Justice Senior—donated by friends of "Beno" Keiter.

Debating—The Mary Elizabeth Jones Memorial Award of Excellence to the Outstanding Debater—donated by Dr. D.G. Reilly.

Economics—The Dr. E. B. O'Leary Award of Excellence to the Outstanding Senior majoring in Economics—donated by Winters National Bank and Trust Company.

Electrical Engineering—The Thomas R. Armstrong, '38, Award of Excellence for the Outstanding Electrical Engineering Achievement in memory of Brother Ulrich Rappel, S.M., and W. Frank Armstrong—donated by Thomas R. Armstrong, '38.

Electrical Engineering—The Anthony Horvath, '22, and Elmer Steger, '22, Award of Excellence to the Outstanding Senior in Electrical Engineering—donated by Anthony Horvath, '22, and Elmer Steger, '22.

Electrical Engineering—The Brother Louis H. Rose, S.M., '33, Award of Excellence to the Outstanding Junior in Electrical Engineering.

Elementary Education—The George A. Pflaum, '25, Award of Excellence to the Outstanding Student in Elementary School Teacher Education—donated by George A. Pflaum, Jr.

Engineering Technology—The L. Duke Golden Award of Excellence to the Outstanding Senior in Engineering Technology—donated by the Gamma Beta Chapter of Tau Alpha Pi Honor Society.

English—The Brother Thomas P. Price, S.M., Award of Excellence to the Outstanding Senior in English—donated by the U.D. Mothers' Club.

English—The U.D. Women's Association Award for excellence in composition.

English—The Father Adrian J. McCarthy, S.M., Award of Excellence to a graduate assistant for achievement in teaching freshman English—donated by a friend.

English Education—The Dr. Harry E. Hand Memorial Award of Excellence—donated by the faculty of the Department of English and of the School of Education.

Finance—The Financial Executives Institute Award of Excellence to the Outstanding Senior majoring in Finance—donated by the Dayton Chapter of the Financial Executives Institute.

General Excellence—The Mary M. Shay Award of Excellence in both academic and extracurricular activities.

History—The Dr. Samuel E. Flook Award of Excellence to the Outstanding Senior majoring in History—donated by Dr. Samuel E. Flook.

History—The Phi Alpha Theta Scholarship Key (Senior members of Delta Eta Chapter only).

History—The Caroline Beauregard Award of Excellence to an Outstanding Junior majoring in History—donated by family and friends in her memory.

History—The Dr. George Ruppel, S.M., Award of Excellence in Historical Research.

History—The Betty Ann Perkins Award for Excellence in Women's and Family History—donated by her family.

Home Economics—The Elizabeth L. Schroeder Award of Excellence to an outstanding senior in the Department of Home Economics for academic, departmental, and professional performance.

Humanities—The Rocco M. Donatelli Award to the humanities senior with the strongest quantitative and qualitative record in elective science courses.

Industrial Engineering Technology—The American Institute of Industrial Engineers Award to the Outstanding Graduate of the Industrial Engineering Technology program—donated by the Dayton Chapter of the American Institute of Industrial Engineers.

Industrial Engineering Technology—The American Institute of Industrial Engineers Award to the Outstanding Junior in Industrial Engineering Technology—donated by the Dayton Chapter of the American Institute of Industrial Engineers.

Journalism—The Brother George F. Kohles, S.M., Award of Excellence in Journalism—donated by a friend.

Journalism—The Ritter Collett Award of Excellence to the Outstanding Senior in Journalism. This is awarded annually to the student who best demonstrates personally and in his or her writings the qualities of Mr. Collett that the University hopes will serve as an inspiration to Journalism students.

Languages—The Brother John R. Perz, S.M., Award of Excellence to the Outstanding Senior in Modern Languages.

Languages—French—Brother George J. McKenzie, S.M., Award of Excellence to the Outstanding Senior in French—donated by a friend.

Languages—Spanish—The Dr. James M. Ferrigno Award of Excellence to the Outstanding Senior in Spanish—donated by Enrique Romaguera and Mary A. Ferrigno.

Library—The Brother Frank Ruhlman, S.M., Award of Excellence for Literary Achievement.

Management—The Charles Huston Brown, '20, Award of Excellence to the Outstanding Senior in Business Administration in memory of Brother William Haebe, S.M.—donated by C. Huston Brown, '20.

Management—The Maurice F. Krug, '55, Award of Excellence to an outstanding senior in the Department of Management.

Management—The Reynolds and Reynolds Company Award of Excellence to the Outstanding Woman in the Department of Management—sponsored by the Reynolds and Reynolds Company.

Management—The Wall Street Journal Student Achievement Award to an Outstanding Senior Majoring in Management—sponsored by Dow Jones & Company, Inc.

Management—The Standard Register Company Award of Excellence to an Outstanding Senior in the Department of Management—sponsored by the Standard Register Company.

Management Information Systems—The Decision Sciences Department Scholarship Award to a graduating senior in MIS for outstanding academic achievement.

Management Information Systems—The Decision Sciences Department MIS Award to a graduating senior in MIS for outstanding contributions to the MIS program.

Management Information Systems—The Decision Sciences Department Award to the team producing the best Senior Year MIS Project.

Marketing—Award for Outstanding Achievement by a Junior Marketing Major.

Marketing—Award for Outstanding Achievement by a Senior Marketing Major.

Master of Business Administration—The Reverend Raymond A. Roesch, S.M., Award of Excellence for outstanding academic achievement in the Master of Business Administration Program—donated by Winters National Bank and Trust Company.

Mathematics—The Faculty Award of Excellence in Mathematics.

Mathematics—The Pi Mu Epsilon Award of Excellence in the Sophomore Class.

Mathematics Education—Bro. Joseph W. Stander, S.M., Award of Excellence to a graduating senior in the teacher certification program with a principal teaching field in mathematics.

Mechanical Engineering—The Bernard F. Hollenkamp, '39, Memorial Award of Excellence to the Outstanding Senior in Mechanical Engineering—donated by Louis A. and Mrs. Lucille Hollenkamp.

Mechanical Engineering—The Martin C. Kuntz, '12, Award of Excellence to the Outstanding Junior in Mechanical Engineering—sponsored by the University of Dayton Alumni Association since 1962.

Mechanical Engineering—The Class of '02 Award of Excellence for Outstanding Mechanical Engineering Achievement—donated by Michael J. Gibbons, '02, in memory of Warner H. Kiefaber, '05.

Mechanical Engineering—The Brother Andrew R. Weber, S.M., Award of Excellence for outstanding service and achievement in Mechanical Engineering.

Mechanical Engineering Technology—The Dayton Chapter, Society of Manufacturing Engineers Award of Excellence to the Outstanding Freshman in Mechanical Engineering Technology.

Mechanical Engineering Technology—The Dayton Chapter, Society of Manufacturing Engineers Award of Excellence to the Outstanding Senior in Mechanical Engineering Technology.

Medical Technology—Alumni Award of Excellence to the Outstanding Senior in Medical Technology.

Military Science—Department of the Army Award. The Superior Cadet Award, provided by the Department of the Army, presented to the outstanding cadet of each academic year.

Military Science—The Lieutenant Robert M. Wallace, '65, Memorial Award to the Outstanding Junior ROTC Scholarship Cadet—donated by his family and friends.

Performing and Visual Arts—Music Division Senior Award for Outstanding Contribution to the University Bands.

Performing and Visual Arts—Music Division—The Brother Joseph J. Mervar, S.M., Award of Excellence to an outstanding student majoring in music.

Performing and Visual Arts—Sigma Alpha Iota Professional Music Society Award for Scholastic Achievement (Seniors only).

Performing and Visual Arts—Sigma Alpha Iota National Music Society Dean's Award for Outstanding Achievement.

Performing and Visual Arts—Sigma Alpha Iota—College Honor Award, for musicianship, scholarship, and general contributions.

Performing and Visual Arts—Fine Arts Division—The Professor Bela Horvath Award for Excellence in Representational Art.

Performing and Visual Arts—Fine Arts Division—The Mary Ann Dunsky Award to an Outstanding Senior in studio art.

Philosophy—The Award of Excellence to the First and Second Outstanding Seniors in Philosophy—donated by the Reverend Charles Polichek.

Philosophy—The Reverend Charles C. Bloemer, S.M., Award of Excellence to the Outstanding Junior majoring in Philosophy—donated by a friend.

Physical and Health Education—The John L. Macbeth Memorial Award of Excellence to the Outstanding Student in Physical and Health Education—donated by Mrs. John L. Macbeth.

Physical and Health Education—The James M. Landis Memorial Award of Excellence for the Outstanding Physical and Health Education Senior in Science Core Courses.

Physics—The Sigma Pi Sigma Award of Merit to a Senior majoring in Physics, in memory of Caesar Castro—donated by Sigma Pi Sigma.

Physics—Award of Excellence to a senior Physics major who has displayed "remarkable talent, exemplary industry, intense motivation, and mature comprehension of undergraduate Physics"—donated by the Department of Physics.

Physics—The Caesar Castro Award of Excellence to a sophomore for outstanding scholarship in the General Physics lecture and laboratory sequence—donated in memory of Caesar Castro by Mrs. C. C. Castro and the Department of Physics.

Political Science—The Brother Albert H. Rose, S.M., Award of Excellence to the Outstanding Senior in Political Science—donated by Joseph Zusman, '65.

Political Science—The Eugene W. Stenger, '30, Memorial Award of Excellence to the Outstanding Junior in Political Science—donated by Mrs. Eugene W. Stenger.

Premedicine—The Brother Francis John Molz memorial award to the Outstanding

Senior in Premedicine. This is awarded annually to the student who best demonstrates the qualities of unselfishness, community service, and academic achievement. Sponsored by Alpha Epsilon Delta.

Premedicine—Montgomery County Medical Award to the Outstanding Senior in the Premedical Curriculum.

Psychology—The Reverend Raymond A. Roesch, S.M., Award of Excellence to the Outstanding Student in Psychology—donated by the Reverend Raymond A. Roesch, S.M., '36.

Religious Studies—The William Joseph Chaminade Award of Excellence in memory of Mr. and Mrs. George W. Dickson, to the Outstanding Student in Theology—donated by The Reverend John Dickson, S.M., '36.

Religious Studies—The Monsignor J. Dean McFarland Award of Excellence to the Outstanding Junior majoring in Theological Studies.

Scholar-Athlete—The John L. Macbeth Memorial Award to the Outstanding scholar-athlete in football and basketball. The recipient must have completed five or more terms and must have won a varsity letter.

School of Business Administration—The Mark T. Schneider Award to a senior in the School of Business Administration who has combined academic excellence with service to the University and the community—donated by family and friends in his memory.

School of Business Administration—The Miriam Rosenthal Award of Excellence to a graduating senior in the School of Business Administration—donated by Dean William J. Hoben.

School of Education—The William A. Beitzel Award for the outstanding student in Special Education.

School of Education—The Daniel L. Leary Award for the outstanding research and development activity by a student seeking teacher certification in the School of Education.

School of Education—The Reverend George J. Renneker, S.M., Award of Excellence for outstanding achievement in Teacher Education.

Secondary Education—The Brother Louis J. Faerber, S.M., Award of Excellence to the Outstanding Student in Secondary School Teacher Education—donated by the University of Dayton Mothers' Club.

Social Work—The Joseph Zusman, '65, Award of Excellence to the Outstanding Senior in Social Work Studies—donated by Joseph Zusman, '65.

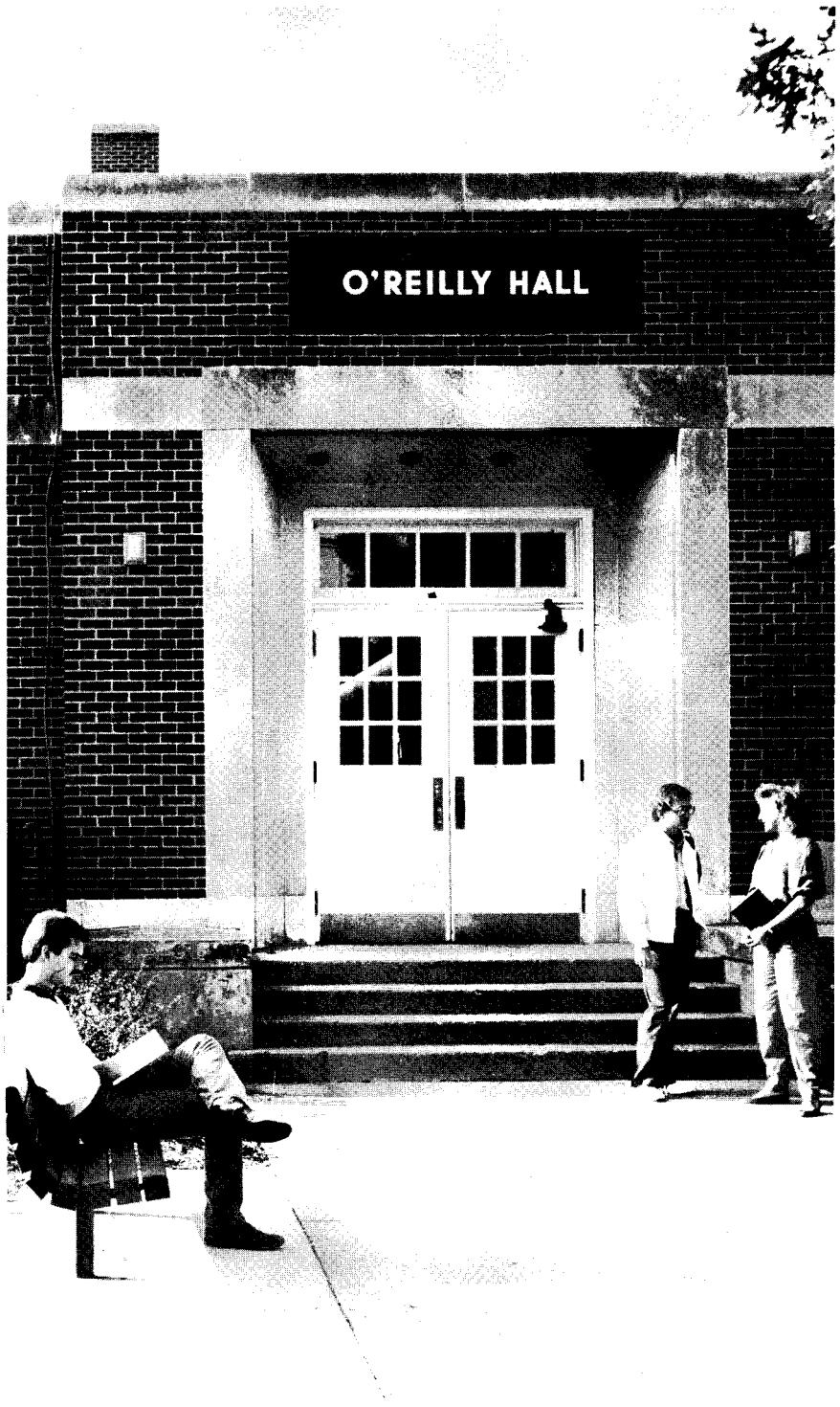
Sociology—The Dr. Edward A. Huth Silver Anniversary Award of Excellence to the Outstanding Student in Sociology—donated by Joseph Zusman, '65.

Sociology—The Dr. Martin Luther King Memorial Award in Human Relations for excellence in scholarship, Christian leadership, and the advancement of brotherhood—donated by Dr. Edward A. Huth.

Sociology—The Reverend Andrew L. Seebold Award of Excellence to the Outstanding Senior in Sociology.

Student-Athlete (Special)—The Charles R. Kendall, '29, Memorial Award of Excellence for achievement in academic and athletic effort—donated by Mrs. Charles R. Kendall and Friends.

University Relations—Award of Excellence for contribution of service to the Community.


O'REILLY HALL

VI College of Arts and Sciences

Francis M. Lazarus, Dean

Richard E. Peterson, Assistant Dean

Ellen M. Murphy, O.P., Assistant Dean

Terrence D. Wong, S.M., Assistant to the Dean

The College of Arts and Sciences has as its primary responsibility the implementation of the fundamental commitment of the University of Dayton to the discovery, integration, dissemination, and application of truth. The College contributes to the fulfillment of this commitment through curricular programs in the liberal arts and sciences, which are central to the intellectual life of the University. The College provides students instruction in communication skills, critical thinking, social and cultural criticism, computation, scientific reasoning, historical analysis, and religious and moral awareness. These qualities are fundamental and essential to each student's full and integral development as a broadly educated person. The College serves not only its own students but also the students of the professional schools and insures that basic, as well as applied, fields of study are available to all students.

The faculty of the College of Arts and Sciences seek to live, as well as profess, the liberal arts and to pursue teaching and research, community service, and constructive social criticism within the framework of freedom of thought and expression. Within the tradition of liberal education, the faculty are committed to the full and integral development of students, cognizant of the priceless and timeless value of this tradition, and aware of the need to relate the liberal arts to the realities of time, place, and legitimate career aspirations.

The faculty of the College of Arts and Sciences, therefore, remind the students of all the resources within their reach: faculty guidance, especially in selecting courses and planning programs; the campus ministry; the social and professional clubs and societies; the campus publications; the many musical, dramatic, and art programs; and especially the opportunity for membership on departmental and campus-wide committees where students gain experience in working with others on projects of significance to the department or to the College.

The College of Arts and Sciences chooses from its own traditions and convictions, as well as from its role as the principal service unit of the University, a values-oriented approach to education. In all of its programs and throughout its curriculum, the College and its faculty seek to complement excellent substantive instruction with a sense of respect for the role of each person in society and an appreciation of the aesthetic and the spiritual life. These values emerge not only from the College's mission as the chief proponent of the liberal tradition at the University of Dayton, but also from its commitment to Christian educational principles and to the Marianist spirit in education, which is its heritage.

MAJORS AND MINORS

The major is defined as a block of courses totalling at least 24 semester hours of upper-level work in a single discipline; it is sometimes supported by a minor, which is a block of courses totalling at least 12 semester hours of upper-level work. Some minors are defined specifically in the departmental listings.

The Bachelor of Arts is offered in the following areas:

- American Studies
- Chemistry
- Communication
- Economics
- English
- Fine Arts
- Geology
- History
- International Studies
- Interior Design
- Languages
- Mathematics
- Music
- Philosophy
- Photography
- Political Science
- Psychology
- Religious Studies
- Sociology
- Theatre

The Bachelor of Science is offered in the following areas:

- Biology
- Chemistry
- Computer Science
- Computer Science-Physics
- Criminal Justice
- Cytotechnology
- Geology
- Home Economics
- Mathematics
- Medical Technology
- Nuclear Medicine Technology
- Physical Science
- Physics
- Predentistry
- Premedicine
- Psychology
- Social Work
- Systems Analysis

Other programs leading to the bachelor's degree:

- Commercial Design (B.F.A.)
- Fine Arts (B.F.A.)
- General Studies (B.G.S.)
- Music (B.Mus.)
- Music Therapy (B.Mus.)
- Photography (B.F.A.)

Established Interdisciplinary Majors

American Studies, International Studies, Premedicine, and Predentistry are present examples of established interdisciplinary concentrations. Such programs are established by interdisciplinary committees and administered by the chairpersons of the committees.

Individually Designed Interdisciplinary Majors

Students demonstrating extraordinary interest, special skills or needs, and sound academic status may initiate individually designed majors. Such majors are negotiated between the students and the chairpersons of the appropriate departments. Long-range plans for the individually designed majors are submitted to the dean for final approval. Plans may be altered with appropriate supporting rationale and the approval of chairpersons and dean.

DEGREE REQUIREMENTS

For the bachelor's degree, it is necessary to complete all the requirements listed in one of the programs in this chapter. The final 30 semester hours must be earned in residence at the University of Dayton.

GENERAL REQUIREMENTS FOR ALL BACHELOR OF ARTS PROGRAMS

A minimum of 120 semester hours of approved coursework must be presented for the B.A. At least 54 semester hours must be completed at the 300-400 level. For limitations on credit and restrictions on courses, consult the chairperson and the dean. For departmental or program requirements, consult program schedules A1-A21 or the department chairperson or program director.

	Semester Hours
Major Concentration (with at least 24 semester hours at 300-400 level)	30-45
Breadth Requirement (See Distribution Table below.)	55-61
General Education Requirements: These courses may also be counted for other requirements where applicable. (See Chapter V.)	30
Program and General Electives: These courses must be external to the major discipline. Electives should be approved by the chairperson or dean since some restrictions exist.	14-35

Distribution Table for Breadth Requirement

Courses taken to fulfill the breadth requirement should be external to the major field. Students electing courses in any department should be aware that some introductory or background knowledge may be expected of them even when no specific prerequisite course is listed.

Natural Science: Four semester hours must be in an approved natural science course (Biology, Chemistry, Geology, Physics) with an accompanying laboratory.	7
Mathematics: Three semester hours selected from approved courses in the Department of Mathematics.	3
Social and Behavioral Sciences: Anthropology, Economics, Political Science, Psychology, and Sociology. Up to 6 of the 12 semester hours of social and behavioral sciences may, with the approval of the chairperson of the major department or the director of the program, be taken in applied social and professional studies: Criminal Justice, Education, Home Economics, Management, Marketing, Military Science, Social Work, and appropriate courses in ASI.	12
Humanities: American Studies, Communication, English, History, Humanities Studies, Languages, Performing and Visual Arts, Philosophy, Religious Studies, and, with approval of the chairperson of the major department or the director of the program, appropriate courses in ASI. At least one unit of 9 semester hours in a humanities area with at least 3 semester hours at 300-400 level (except Languages and Performing and Visual Arts, in which a unit may be 9 semester hours at any level). The remaining 9 semester hours of electives are to be chosen from one or more *other* departments. (The basic Philosophy, Religious Studies, and communication skills courses do not fulfill this requirement.)	18
Philosophy and/or Religious Studies	12
Communication Skills (ENG 101, 102, SPE 101): Each student must demonstrate competence in written and oral communication before the completion of the freshman year. This competence may be demonstrated through coursework, proficiency examinations, or advanced standing. Information on this matter should be sought in the office of the dean.	3-9

GENERAL REQUIREMENTS FOR ALL BACHELOR OF SCIENCE PROGRAMS

A minimum of 120 semester hours of approved coursework must be presented for the B.S. For limitations on credit and restrictions on courses, consult the chairperson and the dean. For departmental or program requirements, consult program schedules S1-S14 or the department chairperson or program director.

	Semester Hours
Major Concentration (with at least 24 semester hours at 300-400 level).	30-60
Breadth Requirement (See Distribution Table below.)	44-50
General Education Requirements: These courses may also be counted for other requirements where applicable. (See Chapter V.)	30
Program Requirements and General Electives: Electives should be approved by the chairperson or dean since some restrictions exist.	10-46

Distribution Table for Breadth Requirement

Courses taken to fulfill the breadth requirement should be external to the major concentration. Students electing courses in any department should be aware that some introductory or background knowledge may be expected of them even when no specific prerequisite course is listed.

Natural Science: Selected from Biology, Chemistry, Geology, and Physics courses with accompanying laboratories.	8
Mathematics, Computer Science: At least 3 semester hours must be in Mathematics, the courses(s) to be determined by placement and major program.	6
Social and Behavioral Sciences: Anthropology, Economics, Political Science, Psychology, Sociology. Up to 3 of the 6 semester hours of social and behavioral sciences may, with the approval of the chairperson of the major department or the director of the program, be taken in applied social and professional studies: Criminal Justice, Education, Home Economics, Management, Marketing, Military Science, Social Work, and appropriate courses in ASI	6
Humanities: American Studies, Communication, English, History, Humanities Studies, Languages, Performing and Visual Arts, Philosophy, Religious Studies, and, with the approval of the chairperson of the major department or director of the program, appropriate courses in ASI. (The basic Philosophy, Religious Studies, and communication skills courses do not fulfill this requirement.)	9
Philosophy and/or Religious Studies	12
Communication Skills (ENG 101, 102, SPE 101): Each student must demonstrate competence in written and oral communication before the completion of the freshman year. This competence may be demonstrated through coursework, proficiency examinations, or advanced standing. Information on this matter should be sought in the office of the dean.	3-9

GRADUATION REQUIREMENTS

1. It is the responsibility of the student to file his or her Candidate for Graduation card in the office of the Dean of the College of Arts and Sciences.

2. For graduation, it is necessary that the student successfully complete an approved program of studies in the College; that the standard grade point average be at least 2.0 in the major field, in the minor field, and in the total program. In the Bachelor of Fine Arts and Bachelor of Music Programs, a 2.0 cumulative grade point average is required in the nonprofessional courses as well as in the professional courses.

INTERNSHIP PROGRAM

The Internship Program is an educational work experience with an outside agency, in which a full-time student registers for on-the-job work performed without direct supervision by academic personnel. Such work can be performed in a variety of areas; however, the general purpose of all internships is to serve as transition between the world of study and the world of work.

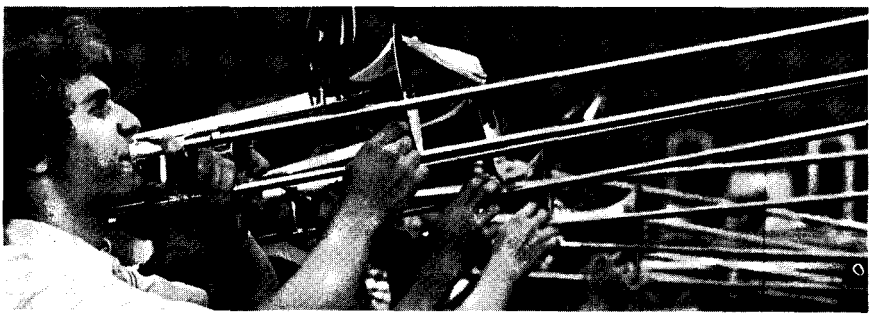
Normally a departmental internship director or another designated faculty member will make all contacts with prospective agencies for placing students as interns. While students themselves may initiate contacts at possible sites, all sites must be ruled acceptable by the director before an internship may begin.

In order to accomplish the general purpose of an internship, the student must adhere to the following requirements:

- To be eligible for an internship, a student must be in good standing at the University of Dayton and have successfully completed course work in areas appropriate to the internship sought.
- An intern may receive no more than six semester hours of credit in any semester for internship.
- No more than twelve semester hours of work experience credit in any kind of internship or work experience program can be accepted toward a baccalaureate degree.
- The student intern will submit a daily log and a written report to the internship director at the conclusion of the internship.

Other procedures and requirements in addition to those mandated by the College may be imposed by departments for individual programs to meet the specific nature of a given internship.

Interested students should see the internship directors in their respective departments for further details.



AMERICAN STUDIES (AMS)

The course requirement for American Studies majors is 48 semester hours, distributed as follows:

1. American Studies 300, 301, and 400; and
2. Courses in each of the three areas identified below as Groups A, B, and C, as follows:
   a. An area of concentration consisting of 24 semester hours. (Fifteen must be chosen from the recommended American courses as listed in Group A, B, or C below. The other 9 must be non-American courses in the same group.)
   b. A second area, consisting of 9 semester hours, to be chosen from one of the two remaining groups listed below.
   c. A third area, consisting of 6 semester hours, to be chosen from the remaining group.

Group A

ENG 305, 317[1], 319[1], 320[1], 325, 327, 329[1], 331[1], 335, 337, 339, 380[1], 451, 453, 455, 468, 490[1]
ART 376, 472, 490[1]
MUS 304, 305, 306, 307, 344

Group B

HST 351, 355, 360, 365, 370, 375, 376, 380, 390, 391, 398, 399, 417, 450, 454, 455, 456, 460, 461, 465, 466, 470, 472, 473, 476, 477, 495, 499[1]
PHL 304, 310, 311, 314, 317, 318, 320, 323, 330, 331, 340[1], 361
REL 301, 326, 327, 364, 367, 372, 373, 408[1], 428[1], 448[1], 478

Group C

ECO 346, 347, 430, 442, 445, 471, 485, 490[2]
POL 301, 303, 310, 311, 313, 360, 408, 411, 450, 475
PSY 334, 341, 351, 361, 363, 443, 461, 462, 471
SOC 303, 328, 333, 337, 339, 341, 343, 351, 439
ANT 310, 315, 406, 449
SWK 337

No minor is required of American Studies majors.

The American Studies curriculum is shaped with the advice of a committee composed of professors Alexander, Arons, Bregenzer, Henninger, Kimble, and Kunkel.

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[1]Courses which are to be considered "listed" only when their content is entirely or mostly "American."

[2]Each of the economics courses has one or two 200-level prerequisites; consult the director.

PROGRAM—A1: BACHELOR OF ARTS WITH A MAJOR IN AMERICAN STUDIES (AMS)[1]

	Semester Hours
AMS 300, 301, 400	9
First area electives from Group A, B, or C, as listed above	24
Second area electives from one of the two remaining groups	9
Third area electives from the remaining group	6
Natural science	7
Mathematics	3
Social and behavioral science	12
Humanities	18
Philosophy and/or religious studies	12
Communication skills	3-9
General education courses and academic electives to total at least	120

[1]See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

FACULTY

Francis J. Henninger, *Director*
Associate Professors: Alexander, Henninger, Palermo

COURSES OF INSTRUCTION

AMS 300. AMERICAN CULTURES: A study of American artifacts to discern how they indicate the periods in the life of our civilization and how like artifacts can be used to determine the stages of development of various peoples. *3 sem. hrs.*

AMS 301. INTERPRETATIONS OF AMERICAN CULTURE: Critical study of various interpretations of American culture through more than a hundred years. *3 sem. hrs.*

AMS 400. INTERDISCIPLINARY RESEARCH: Study of the principles of interdisciplinary scholarship; what can and probably cannot be accomplished by it; successful interdisciplinary accomplishments. Students will complete interdisciplinary projects. *3 sem. hrs.*

ANTHROPOLOGY (ANT)

Anthropology is the study of people at all times and places. It emphasizes understanding total cultural systems. The Department of Sociology and Anthropology offers a minor in anthropology. Students intending to minor in anthropology should consult with the department chairperson to plan their selection of courses, which must include ANT 150 and four courses at the 300-400 level. See also SOC.

COURSES OF INSTRUCTION

*ANT 150. CULTURAL ANTHROPOLOGY: Basic principles of cultural anthropology. Survey of human adaptation to and adjustment of the environment by means of culture; comparison of ways of life among peoples of the world for inferences toward understanding human behavior. Required for anthropology minors. *3 sem. hrs.*

ANT 300. EVOLUTION OF PEOPLE AND CULTURE: Survey of human biological and cultural evolution from prehuman ancestors to settled city-states. Consideration of contemporary peoples at various levels of social complexity. *3 sem. hrs.*

ANT 310. CULTURE AND PERSONALITY: Survey of studies investigating the relationship between cultural environment and the individual. Material drawn from both literate and nonliterate societies. *3 sem. hrs.*

ANT 315. LANGUAGE AND CULTURE: Introduction to the scientific study of language and its relationship to other aspects of human behavior. *3 sem. hrs.*

ANT 335. URBAN ANTHROPOLOGY: Survey of the emergence of civilization in a number of regions including China, India, Mesopotamia, Egypt, Mexico, and Peru. *3 sem. hrs.*

ANT 351. CULTURES OF THE CARIBBEAN: Variety of African- and Old World-derived cultures in the Caribbean and on its borders. Social-scientific topics such as effects of mother-centered families on personality, importance of verbal behavior in these cultures, problems of I.Q. testing in cultures other than where the tests originate, economic adaptations, political movements, religious practices. *3 sem. hrs.*

ANT 352. CULTURES OF LATIN AMERICA: Origin and development of ancient civilizations including the Aztec, the Maya, and the Inca. Survey of contemporary cultures, with special emphasis on peasant life. *3 sem. hrs.*

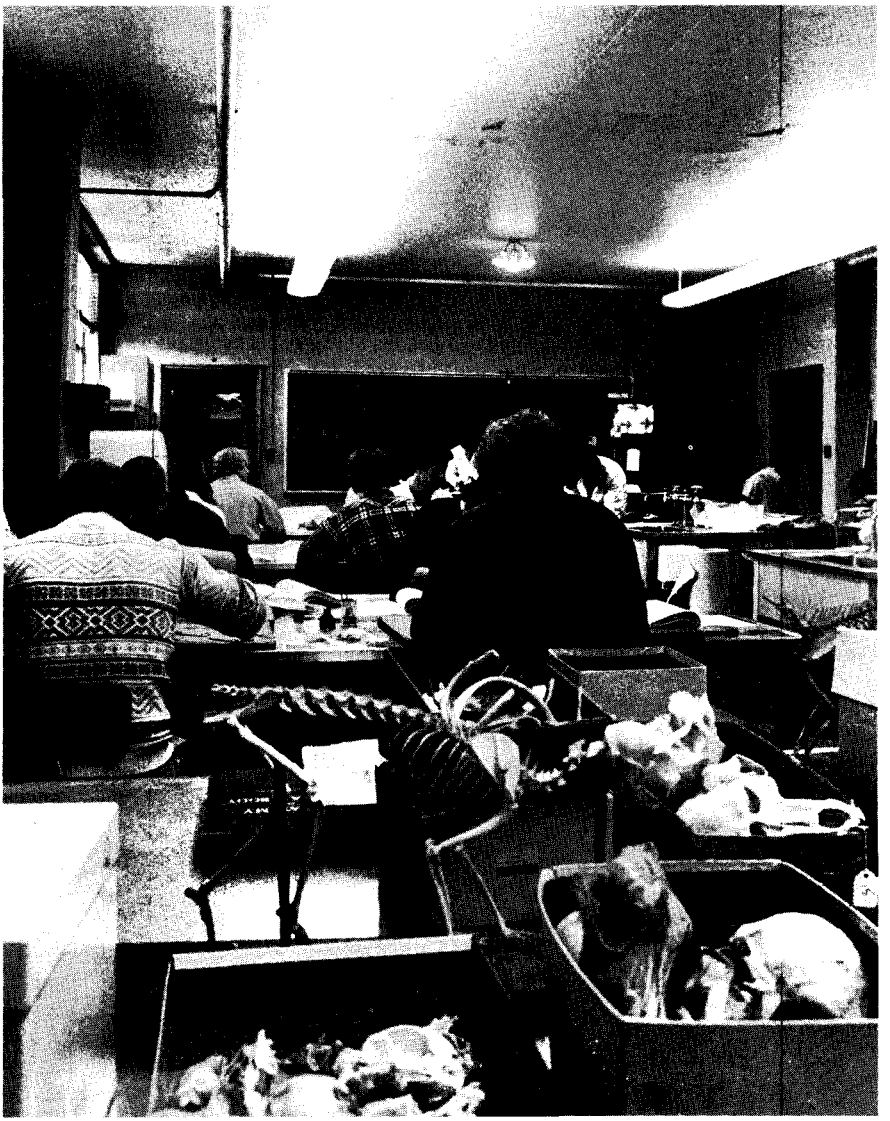
ANT 353. NATIVE CULTURES OF NORTH AMERICA: Consideration of the origins and diversity of American Indian cultures north of the Rio Grande, with attention to language, cultural adaptation to environment, and acculturation without assimilation. The present situation of the Indian in relation to the surrounding culture. *3 sem. hrs.*

ANT 406. CULTURAL CHANGE: The process of social changes in the modern world; culture lag and conflict of norms; individual and social problems arising from conflicting systems of values and norms. Prerequisite: ANT 150 or permission of instructor. *3 sem. hrs.*

ANT 449. ANTHROPOLOGICAL FIELD WORK: Formulation and carrying out of a research design in archaeology, physical anthropology, linguistics, or cultural anthropology. Prerequisite: Consent of instructor. *1-6 sem. hrs.*

ANT 498. INDEPENDENT STUDY: Research problems or readings of special interest investigated under the guidance of an anthropology staff member. Permission of the chairperson. *1-6 sem. hrs.*

*General education course. See Chapter V.



BIOLOGY (BIO)

CURRICULUM DESCRIPTION FOR BACHELOR OF SCIENCE WITH A MAJOR IN BIOLOGY

Curriculum Summary	*Semester Hours*
Biology core courses	21
Biology electives (may include other sciences)	20
Supporting sciences	30
Communication skills (ENG, SPE)	12
Philosophy and/or religious studies	12
Humanities electives	12
Social-behavorial science electives	12
General electives	6
	125

Major Concentration
Biology Core: Concepts of Biology I, II (BIO 151, 152, 152L, 201L), Genetics (BIO 412), Sophomore and Senior Seminars (BIO 299, 420), one environmentally oriented course from Group A, one molecularly oriented course from Group B, each with accompanying laboratory.

Biology electives: Six courses chosen from any of the areas listed below (Groups A, B, C). Laboratory sections must accompany two of these six electives. Qualified students may carry out independent study and research projects for laboratory credit (Biological Problems, BIO 421-422, 1-2 sem. hrs.).

Group A
BIO 314, 314L Plant Biology
BIO 430, 430L Ecology
BIO 452, 452L Aquatic Biology
BIO 461, 461L Invertebrate Zoology

Group B
BIO 403, 403L Physiology
BIO 411, 411L Microbiology
BIO 440, 440L Cell Biology
BIO 442, 442L Developmental Biology

Group C
All other biology courses
(See Courses of Instruction.)

Because of differing career plans, majors may take some middle or upper-level elective courses in other science or engineering departments as long as the courses have direct relevance to the major in biology. However, biology majors must have a minimum of 24 semester hours of 300-400-level *biology* courses.

Supporting Sciences: Two mathematics courses–MTH 112, 113. (Substitute MTH 101, precalculus, and MTH 112 if indicated by mathematics placement.) Four chemistry courses—CHM 123, 124, 313, 314, all with laboratories. (CHM 115 must precede CHM 123 if chemistry background is inadequate.) Two physics courses–PHY 201, 202, with laboratories.

PROGRAM—S1: BACHELOR OF SCIENCE WITH A MAJOR IN BIOLOGY (BIO)[1]

Dept.	*No.*	*Course*	*1st Term*[2]	*2nd Term*
		Freshman Year		
BIO	100	Freshman Seminar	1-0-0	
BIO	151-152	Concepts of Biology	3-0-3[2]	3-3-4
CHM	123-124	General Chemistry[3]	3-3-4	3-3-4
MTH	112-113	Introductory Calculus[4]	3-0-3	3-0-3
ENG	101-102	College Composition I and II	3-0-3	3-0-3
SPE	101	Fundamentals of Effective Speaking		3-0-3
—	—	General education requirements[5]	3-0-3	
			16	17
		Sophomore Year		
BIO	201L	Biology Laboratory Investigations		0-3-1
BIO	299	Sophomore Seminar	1-0-1	
BIO	—	Biology core elective		3-3-4
CHM	313-314	Organic Chemistry	3-3-4	3-3-4
PHY	201-202	General Physics[6]	3-2-4	3-2-4
HST	101 or 102	History of Western Civilization		3-0-3
—	—	General education requirements[5]	6-0-6	
			15	16
		Junior Year		
BIO	412	General Genetics	3-0-3	
BIO	—	Biology core elective	3-3-4	
BIO	—	Biology electives[7]		6-3-7
ENG	—	English elective[8]	3-0-3	
HST	—	History elective[9]		3-0-3
—	—	General education requirements	6-0-6	6-0-6
			16	16
		Senior Year		
BIO	420	Senior Seminar	1-0-1	
BIO	—	Biology electives	6-3-7	6-0-6
—	—	General education requirements and electives[10]	6-0-6	9-0-9
			14	15

[1]Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

[2]For example, 3-0-3 means 3 hrs. class, 0 hrs. lab., 3 sem. hrs. credit.

[3]Begin in CHM 115 if background is insufficient for CHM 123.

[4]Placement test may necessitate initial course in precalculus (MTH 101). Depending on background and interests, two calculus sequences are available, MTH 112-113, MTH 118-119. (See Mathematics Courses of Instruction.)

[5]Some general education courses are specified in the program (e.g., BIO 152); others are to be chosen from the listing of approved courses. See Chapter V.

[6]Well qualified students are strongly advised to take PHY 206-207-208 with PHY 201-202 laboratories. (MTH 118-119 is a prerequisite.)

[7]A CPS course is strongly recommended.

[8]Select from ENG 272, 316, 370, 378, or (with approval of advisor) other ENG course that emphasizes writing.

[9]Select HST 340 or 341.

[10]A full year of a modern foreign language is recommended.

CURRICULUM DESCRIPTION FOR COMBINED BACHELOR AND MASTER OF SCIENCE WITH A MAJOR IN BIOLOGY

The B.S./M.S. in Biology is an accelerated, highly structured program that is designed for students who show an early interest in, and a strong potential for, research in the biological sciences. The combined program provides an undergraduate liberal arts education, a broad, basic background in the biological sciences, the development of expertise in a biological subfield, and a thorough introduction to research instrumentation and techniques. Graduates from the program are prepared for either direct entry into the job market or continuation toward the Ph.D.

An early commitment to the program and utilization of third-term sessions during the third and fourth years allows completion of all required B.S. and M.S. course work in five years. Normally the bachelor's degree is awarded at the end of the first term of the fourth year. Qualifying examinations for master's candidacy take place during the first term of the fifth year. The M.S. component of the combined program requires a research thesis. If the thesis work is under way during the fourth year, it can ideally be finished by the end of the fifth year. The master's degree is awarded upon the successful defense of the M.S. thesis.

Specialization in a biological subfield is accomplished by selection of undergraduate and graduate elective courses, choice of thesis topic, and participation in appropriate seminars. Subfield specialization, botanical or zoological, is available in physiology, ecology and field biology, cell and development biology, and genetics and microbiology. Depending upon subfield specialization, special problems courses may be conducted at clinical and/or industrial laboratories in the local community.

Indication of intent to enter the combined B.S./M.S. program should be made during the second year. Formal entry into the program occurs during the fourth year; applications are submitted during the first term, and acceptance and matriculation are begun during the second term. Students accepted into the program will be supported as follows:

Second and third terms, fourth year, partial stipend plus complete remission of tuition and fees

First, second, and third terms, fifth year, full stipend and complete remission of tuition and fees

Service as a laboratory teaching assistant may be required during the fourth and fifth years.

Admissions criteria include the following:

1. Completion of all first-, second-, and third-year courses as specifically listed in the Bulletin description of the Combined B.S./M.S. Program in Biology. Course equivalents will be determined by the departmental committee on graduate admissions.
2. Total cumulative and science grade-point averages of 3.3 or higher.
3. Reference letters from three biology faculty members (one of whom will be the applicant's graduate advisor and research director).

It is essential that potential applicants to the B.S./M.S. Program in Biology declare their intentions to the department chairperson as soon as possible.

FACULTY

Kenneth J. McDougall, *Chairperson*
Professors: Bajpai, Geiger, Jaffee, McDougall, Noland, Ramsey, Shay
Associate Professors: Burky, Chantell, Laufersweiler, Rowe, Schwelitz, Ventullo, Williams
Adjunct Associate Professor: Fleischman
Clinical Associate Professors: Moss, Stull, Taylor
Assistant Professors: Kearns, Vesper

COURSES OF INSTRUCTION

*BIO 101. GENERAL BIOLOGY I: A study of the more important biological processes and principles through analysis and synthesis, dealing primarily with the organizational aspects of living things. This course (and BIO 102) is designed for students not following the biology core curriculum. *3 sem. hrs.*

BIO 101L. GENERAL BIOLOGY LABORATORY I: Course to accompany BIO 101. One 2-hour laboratory per week stressing the investigational and experimental approach. *1 sem. hr.*

*BIO 102. GENERAL BIOLOGY II: A continuation of BIO 101, stressing primarily the operational aspects of living matter. Prerequisite: BIO 101. *3 sem. hrs.*

BIO 102L. GENERAL BIOLOGY LABORATORY II: Course to accompany BIO 102. One 2-hour laboratory per week. *1 sem. hr.*

BIO 104. INTRODUCTORY BIOLOGY FIELD COURSE: An introduction to the ecology, behavior, morphology, taxonomy, and life history of plants and animals. One week on campus; three weeks in the Rocky Mountains near Denver, Colorado; one week of travel to and from the field site. For non-biological science majors only. Corequisites: GEO 104; BIO 104L or GEO 104L. Third term only. *3 sem. hrs.*

BIO 104L. INTRODUCTORY BIOLOGY FIELD LABORATORY: Field trip laboratory in the biological sciences to accompany BIO 104. GEO 104L can be substituted for this course. Third term only. *1 sem. hr.*

*BIO 114. BIOLOGICAL SCIENCE: Introduction to the various biological sciences for nonscience majors, stressing principles that apply to all forms of life, taking examples from plant, animal, and microbial life. *3 sem. hrs.*

BIO 114L. BIOLOGICAL SCIENCE LABORATORY: Course to demonstrate and emphasize principles discussed in BIO 114. One 2-hour laboratory per week. *1 sem. hr.*

BIO 151. CONCEPTS OF BIOLOGY I: Study of the physico-chemical organization, the regulatory mechanisms, and the energy relations of living things. Core biology course (for majors in biology, medical technology, premedicine, etc.). *3 sem. hrs.*

*BIO 152. CONCEPTS OF BIOLOGY II: Continuation of BIO 151. Homeostatic mechanism. Reproduction in organisms and its relationship with genes, growth and development, population concepts, environment, and evolution. Core biology course. *3 sem. hrs.*

BIO 152L. BIOLOGY LABORATORY INVESTIGATIONS I: An introduction to biological laboratory procedures and instrumentation through a series of experimental exercises employing a wide variety of organisms. Core biology course. *1 sem. hr.*

BIO 201L. BIOLOGY LABORATORY INVESTIGATIONS II: Specialized laboratory investigations at the organization levels of cells, systems, and organisms. Emphasis on both plant and animal studies. Sophomore-level biology core course with special section for medical technology majors. *1 sem. hr.*

BIO 299. BIOLOGY SEMINAR: Introduction to biological journals and abstracting materials. Practice in the reviewing, abstracting, and presentation of biological information. Primarily for sophomores; not open to seniors. *1 sem. hr.*

*BIO 301. EVOLUTION: Survey of manifestations and examination of mechanisms of the theory of organic evolution with primary emphasis on vertebrate animals. Minimum prerequisite: BIO 101-102/114. *3 sem. hrs.*

BIO 309. COMPARATIVE ANATOMY OF THE VERTEBRATES: Study of changes that have occurred in the chordate body with the passage of time, and analysis of their significance. Prerequisite: Minimum of one year of introductory biology. *3 sem. hrs.*

BIO 309L. COMPARATIVE ANATOMY LABORATORY: Course to accompany BIO 309 lecture. Dissection and study of representative vertebrate animals. Two 3-hour periods per week. *2 sem. hrs.*

BIO 310. HISTOLOGY AND MICROTECHNIQUE: Fundamentals of cell morphology, microscopic structure of tissues and organs, and discussion of techniques in their study. Prerequisite: BIO 101-102 or 151-152. *3 sem. hrs.*

BIO 310L. HISTOLOGY AND MICROTECHNIQUE LABORATORY: Fundamentals of fixing and processing various tissues in the preparation of slides; aims at recognition of microstructure of normal tissues. *1 sem. hr.*

BIO 314. PLANT BIOLOGY: Consideration of structure, function, reproduction, and inheritance as applicable in the plant patterns of life. Emphasis on the vascular plants. Minimum prerequisite: A course in biology. *3 sem. hrs.*

BIO 314L. PLANT BIOLOGY LABORATORY: Laboratory exercises to accompany BIO 314. Emphasis on generalized structure and function of plants. One 3-hour laboratory per week. *1 sem. hr.*

BIO 320. MARINE BIOLOGY: Introduction to the diversity of marine life including the physical-chemical environment. Third term only. *2 sem. hrs.*

BIO 320L. MARINE BIOLOGY LABORATORY: Examination of marine organisms and processes. Laboratory work conducted on UD campus and at off-campus field sites in the South. Third term only. *2 sem. hrs.*

BIO 350. APPLIED MICROBIOLOGY: Fundamentals of applied and environmental microbiology for environmental scientists and engineers. Introduction to microorganisms and their role in bioenvironmental engineering and industrial processes. For non-biological-science majors only. Prerequisites: Introductory biology; general and organic chemistry. *3 sem. hrs.*

BIO 350L. APPLIED MICROBIOLOGY LABORATORY: An introductory laboratory to acquaint students with basic microbiology laboratory techniques as applied to environmental pollution and industrial fermentations. *1 sem. hr.*

BIO 380. MEDICAL TECHNOLOGY SEMINAR: Discussion to relate academic courses and clinical laboratory sciences. Prerequisite: Junior standing. *1 sem. hr.*

*BIO 390. PHYSIOLOGY OF SEX AND FERTILITY REGULATION: Introduction to the role of hormones, glands, organs, and devices in the regulation of sexual functions and fertility. No science credit for biological science majors. Prerequisite: Introductory biology. *3 sem. hrs.*

*BIO 395. BIOLOGY AND SOCIAL ISSUES: Presentation of the biological principles needed for critical discussion and evaluation of current societal issues including food production, biomass for energy, medicine. biotechnology, and conservation of agricultural, recreational, and forest resources. No science credit for biological science majors. Prerequisite: Introductory biology. *3 sem. hrs.*

*BIO 398. HEREDITY AND SOCIETY: Survey of the fundamental principles of inheritance and the application of genetics to contemporary problems of society. Topics such as genetic engineering, the green revolution, environmental mutagenesis. Not open to biological science majors. *3 sem hrs.*

BIO 402. VERTEBRATE ZOOLOGY: The morphology, physiology, ecology, and distribution of representative vertebrate groups. Prerequisite: Junior-senior standing. *3 sem. hrs.*

BIO 402L. VERTEBRATE ZOOLOGY LABORATORY: *1 sem. hr.*

BIO 403. PHYSIOLOGY: A physico-chemical examination of the physiological events occurring in a living system with emphasis on mammalian systems. Prerequisites: BIO 101-102 or 151-152; CHM 313-314. *3 sem. hrs.*

BIO 403L. PHYSIOLOGY LABORATORY: Course to accompany BIO 403. Systematic approach to the acquisition and interpretation of information about the physiology of living systems. *1 sem. hr.*

BIO 407. EMBRYOLOGY: Analysis of vertebrate development with emphasis on morphogenesis, especially organogenesis. Topics include congenital defects. Prerequisites: BIO 101-102 or 151-152; 309 recommended. *3 sem. hrs.*

BIO 407L. EMBRYOLOGY LABORATORY: Course to accompany BIO 407. *2 sem. hrs.*

BIO 410. RADIATION BIOLOGY: Principles concerning the nature of ionizing radiation, its use in studying biological systems, and its effects on organisms. Two hours lecture and two 2-hour laboratory periods per week. Prerequisites: Junior-senior standing. *4 sem. hrs.*

BIO 411. GENERAL MICROBIOLOGY: Rigorous introductory course stressing the physiology, cultivation, and classification of microbial organisms; their role in medicine, agriculture, and industry. Prerequisites: BIO 101-102 or 151-152; CHM 313-314. *3 sem. hrs.*

BIO 411L. GENERAL MICROBIOLOGY LABORATORY: Course to accompany BIO 411. Two 2-hour periods per week. *2 sem. hrs.*

*BIO 412. GENERAL GENETICS: Study of the principles of variation and heredity covering both Mendelian and molecular genetics. Core biology course. *3 sem. hrs.*

BIO 412L. GENETICS LABORATORY: Laboratory exercises to accompany BIO 412. May be taken concurrent with or following the lecture course. *1 sem. hr.*

BIO 417. ENDOCRINOLOGY: Discussion of hormonal regulation of metabolism, growth, and reproduction in the higher vertebrates. Prerequisite: BIO 403. *3 sem. hrs.*

BIO 417L. ENDOCRINOLOGY LABORATORY: Laboratory dealing with the functional analysis of mechanisms and the activity of the endocrine system. *1 sem. hr.*

BIO 420. SEMINAR: Practice in development, presentation, and discussion of papers dealing with biological research problems. Prerequisite: Junior or senior standing. *1 sem. hr.*

BIO 421. BIOLOGICAL PROBLEMS: Laboratory research problems. Topics arranged with faculty advisors. Prerequisite: Chairperson's permission. *1-2 sem. hrs.*

BIO 422. BIOLOGICAL PROBLEMS: Library research problems. Topics arranged with faculty advisors. Prerequisite: Chairperson's permission. *1-2 sem. hrs.*

BIO 423. ADVANCED MICROBIOLOGY: Lectures, readings, and discussions on modern concepts in basic and applied microbiology, with emphasis on modern methods of microbial taxonomy, major groups of bacteria, microbial ecology, and industrial fermentation. Prerequisite: BIO 411. *3 sem. hrs.*

BIO 424. CELL PHYSIOLOGY: The molecular basis for structure, function, and energy transduction in animal and plant cells as well as the organization, function, and development of membrane and subcellular organelles. Prerequisite: BIO 440. *3 sem. hrs.*

BIO 424L. CELL PHYSIOLOGY LABORATORY: Isolation and chemical characterization of cellular organelles; study of cell structure by light microscopy. *1 sem. hr.*

BIO 425. PARASITOLOGY: Introduction to the morphology, life history, and clinical significance of parasites and other symbionts. Prerequisite: BIO 101-102 or 151-152. *3 sem. hrs.*

BIO 425L. PARASITOLOGY LABORATORY: Course to accompany BIO 425. Recognition of common human parasites. Study of both living and preserved forms. One 3-hour period per week. *1 sem. hr.*

BIO 427. IMMUNOLOGY: Discussions of antigens, antibodies, antigenicity, immunogenicity, and antigen-antibody reactions including hypersensitivity, immune tolerance, and transplants. Prerequisite: CHM 420. *3 sem. hrs.*

BIO 430. ECOLOGY: Interrelationship of plants, animals, and microorganisms with the physical-chemical environment: nutrient cycles, energy flow, ecosystems, and factors affecting distribution and abundance of organisms. Prerequisite: One year of biology. *3 sem. hrs.*

BIO 430L. ECOLOGY LABORATORY: Field and laboratory exercises to accompany BIO 430. May be taken concurrently with or following BIO 430. *1 sem. hr.*

BIO 431. EXPERIMENTAL EMBRYOLOGY: Morphological and physiological aspects of development including an introduction to teratology. Prerequisite: BIO 407. *3 sem. hrs.*

BIO 431L. EXPERIMENTAL EMBRYOLOGY LABORATORY: *1 sem. hr.*

BIO 435. MICROBIAL ECOLOGY: Study of the diversity and activity of microorganisms and the interrelationships between microorganisms and their environments with emphasis on aquatic ecosystems. Prerequisites: BIO 411; CHM 313-314. *3 sem. hrs.*

BIO 435L. MICROBIAL ECOLOGY LABORATORY: Examination of the methods of isolation and enumeration of microorganisms and techniques for determining their activities in the field and laboratory. *1 sem. hr.*

BIO 440. CELL BIOLOGY: Function, structure, composition, heredity, and growth of cells. Analysis of cell concept in biochemical terms. Prerequisites: BIO 101-102 or 151-152; CHM 313-314. *3 sem. hrs.*

BIO 440L. CELL BIOLOGY LABORATORY: Laboratory exercises to accompany BIO 440. May be taken concurrently with or following BIO 440. *1 sem. hr.*

BIO 441. PLANT PHYSIOLOGY: Current concepts concerning the physiology of higher plants. Topics include uptake and transfer of materials, metabolism, and regulation of growth and reproduction. Prerequisite: Junior or senior standing. *3 sem. hrs.*

BIO 442. DEVELOPMENTAL BIOLOGY: Analysis of growth and differentiation from standpoint of nucleo-cytoplasmic relationships, and biochemical/physiological aspects. Topics include regeneration and metamorphosis. *3 sem. hrs.*

BIO 442L. DEVELOPMENTAL BIOLOGY LABORATORY: Laboratory exercises to accompany BIO 442. May be taken concurrently with or following BIO 442. *1 sem. hr.*

BIO 444. PLANT DIVERSITY: Broad survey of the major divisions of the plant kingdom; consideration of algae, fungi, bryophytes, vascular plant groups; their generalized life histories, ecological and physiological characteristics, evolutionary relationships. *3 sem. hrs.*

BIO 444L. PLANT DIVERSITY LABORATORY: Laboratory studies of the plant groups, including life cycles and evolutionary, physiological, and ecological adaptations. One 3-hour laboratory per week. *1 sem. hr.*

BIO 446. PLANT DEVELOPMENT: Study of the major organ systems of the vascular plants with emphasis on the nature of their cell-types and tissue composition and their patterns of development. *3 sem. hrs.*

BIO 446L. PLANT DEVELOPMENT AND PHYSIOLOGY LABORATORY: Laboratory to complement BIO 441 and BIO 446. *1 sem. hr.*

BIO 450. COMPARATIVE ANIMAL PHYSIOLOGY: Organized on a function-system basis, course dealing with environment-organism interaction and with integrative systems of the principal phyla of animals. *3 sem. hrs.*

BIO 450L. COMPARATIVE ANIMAL PHYSIOLOGY LABORATORY: Laboratory to accompany BIO 450. Must be taken concurrently with BIO 450. *1 sem. hr.*

BIO 452. AQUATIC BIOLOGY: The interrelationship of organisms and stream and lake ecosystems, including nutrient cycles, oceanic and lake current development, chemical limnology, adaptation to the aquatic environment, and pollution ecology. *3 sem. hrs.*

BIO 452L. AQUATIC BIOLOGY LABORATORY: Laboratory and field exercises emphasizing chemical and physical limnology, evolution of aquatic ecosystems, and pollution ecology. One laboratory or field trip per week. *1 sem. hr.*

BIO 461. INVERTEBRATE ZOOLOGY: Survey of the structure, activities, life histories, and relationships of the invertebrate animals, with some emphasis on their origin and development. Prerequisites: BIO 101-102 or 151-152. *3 sem. hrs.*

BIO 461L. INVERTEBRATE ZOOLOGICAL LABORATORY: Course to accompany BIO 461. One 3-hour laboratory per week. *1 sem. hr.*

BIO 462. ADVANCED GENETICS: Analysis of the nature of the gene and gene action. Particular attention to genetic regulation and to recent advances in molecular genetics. Prerequisites: BIO 412, CHM 314. *2 sem. hrs.*

BIO 462L. ADVANCED GENETICS LABORATORY: Laboratory to accompany BIO 462, employing an experimental approach to genetic problems. Students work the entire term on projects of their choice. *1 sem. hr.*

BIO 464. PATHOPHYSIOLOGY: The role of physiological stress in human physiology and its relation to the disease process. Attention to stress assessment through critical interpretation of clinical laboratory data. Prerequisite: Junior-senior standing; BIO 403. *3 sem. hrs.*

BIO 464L. PATHOPHYSIOLOGY LABORATORY: *1 sem. hr.*

BIO 466. PATHOGENIC BACTERIOLOGY AND IMMUNOLOGY: The nature of infectious diseases, host-parasite relationships in resistance and infection, defense mechanism (antigen-antibody response); survey of the bacteria causing disease in humans. Prerequisites: BIO 411. *3 sem. hrs.*

BIO 466L. PATHOGENIC BACTERIOLOGY AND IMMUNOLOGY LABORATORY: Laboratory experiments to demonstrate immunological, serological, determinative, and medical bacteriology. Two 2-hour laboratory periods per week. *1 sem. hr.*

*General education course. See Chapter V.

CHEMISTRY (CHM)

The B.A. program in chemistry provides a framework of scientific courses which serve as a preparation for a number of interdisciplinary professions. The traditional B.S. curriculum has been modified in the B.A. program, most notably in mathematics, physics, and advanced chemistry. The program is sufficiently flexible to afford a wide selection of courses in the humanities. Science courses may be chosen to provide a preparation for professions such as medicine, dentistry, optometry, veterinary medicine, biochemistry, education, and law, as well as for employment in many other areas which require a background in science.

PROGRAM—A2: BACHELOR OF ARTS WITH A MAJOR IN CHEMISTRY (CHA)[1]

Summary of Requirements	*Semester Hours*
Chemistry	31-37
Physics	8
Science electives	0-6
Mathematics	8-9
Social and behavioral sciences	12
Humanities	18
Philosophy and/or religious studies	12
Communication skills	3-9
General education courses and electives to total at least	126

Dept.	*No.*	*Course*	*1st Term*[2]	*2nd Term*
		Freshman Year		
CHM	100	Arts and Sciences Orientation	1-0-0	
CHM	123-124	General Chemistry[3]	3-3-4	3-3-4
MTH	112-113	Introductory Calculus I and II[4]	3-0-3	3-0-3
SPE	101	Fundamentals of Effective Speaking[5]		3-0-3
ENG	101-102	College Composition I and II[5]	3-0-3	3-0-3
—	—	General education and breadth requirements[1]	6-0-6	3-0-3
			16	16
		Sophomore Year		
CHM	201	Quantitative Analysis[3]	2-4-4	
CHM	313-314	Organic Chemistry[6]	3-3-4	3-3-4
MTH	215	Basic Statistics[4]		3-0-3
PHY	201-202	General Physics[3]	3-3-4	3-3-4
—	—	General education and breadth requirements[7]	3-0-3	6-0-6
			15	17
		Junior Year		
CHM	302	Physical Chemistry[8]	3-0-3	
CHM	—	Chemistry elective[9]		3-0-3
—	—	General education and breadth requirements[7]	6-0-6	6-0-6
—	—	Electives[7]	6-0-6	6-0-6
			15	15

		Senior Year		
CHM	496	Professional Practices Seminar	1-0-1	
CHM	—	Chemistry electives[10]	6-0-6	3-0-3
—	—	Electives	9-0-9	12-0-12
			16	15

[1]See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements. Some general education courses are specified in the program (e.g., CHM 123-124); others are to be chosen from the listing of approved courses.

[2]**For example: 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. of credit.**

[3]May substitute more advanced course depending on background, placement test, or permission of department chairperson.

[4]May substitute MTH 118-119 for MTH 112-113, 215.

[5]In the event of waiver or advanced placement, take another English course or nonscience elective.

[6]CHM 315L-316L may be elected to satisfy laboratory requirements.

[7]A minimum of two courses in a modern foreign language is recommended.

[8]May substitute CHM 303-304.

[9]Must include one of the following courses: CHM 404, 406, 412, 415, 417, 420, 498, 499, 551, 552, or any graduate chemistry course with permission of the instructor.

[10]Must include either two additional courses listed in footnote 9 or two related science courses approved by the chairperson.

The B.S. program in chemistry is a rigorous curriculum which satisfies the requirements of the American Chemical Society for the training of professional chemists. Students who choose this program of study normally have careers in chemistry as their objective. Qualified students may participate in a co-operative education program following completion of the sophomore year.

Each student in the B.S. program is required to conduct an original research project, thereby gaining practical experience in library and laboratory research and in reporting results. Satisfaction of this requirement normally begins with enrollment in CHM 495 and selection of a research professor and project during the second term of the junior year. The research project, conducted during the entire senior year, normally requires two work periods of 3 to 4 hours each a week. The project culminates in the final term of the senior year with enrollment in CHM 498 or 499 (3 semester hours), the submission of an acceptable thesis, and the presentation of a seminar in CHM 497. Additional research work to a maximum total of 6 semester hours may be elected provided that the work extends beyond two semesters. Co-operative education students substitute work experience for research.

PROGRAM—S2: BACHELOR OF SCIENCE WITH A MAJOR IN CHEMISTRY (CHM)[1]

Summary of Requirements	*Semester Hours*
Chemistry	50
Physics	11
Mathematics and computer science	15
Foreign language	6-8
Social and behavioral sciences	6
Humanities	9
Philosophy and/or religious studies	12
Communication skills	3-9
General education courses, breadth requirements, and electives to total	127-129

Dept.	No.	Course	1st Term[2]	2nd Term
		Freshman Year		
CHM	100	Arts and Sciences Orientation	1-0-0	
CHM	123-124	General Chemistry[3]	3-3-4	3-3-4
MTH	118-119	Analytical Geometry and Calculus I and II	4-0-4	4-0-4
PHY	206	General Physics		3-0-3
PHY	210L	Physics Laboratory		0-3-1
ENG	101-102	College Composition I and II[4]	3-0-3	3-0-3
SPE	101	Fundamentals of Effective Speaking[4]	3-0-3	
—	—	General education or breadth requirement[1]	3-0-3	
			17	15
		Sophomore Year		
CHM	201	Quantitative Analysis		2-4-4
CHM	313-314	Organic Chemistry	3-0-3	3-0-3
CHM	315L-316L	Organic Chemistry Laboratory	0-3-1	0-3-1
MTH	218	Analytical Geometry and Calculus III	4-0-4	
PHY	207-208	General Physics II and III	3-0-3	3-0-3
PHY	211L	Physics Laboratory	0-3-1	
—	—	Foreign language[5]	4-0-4	4-0-4
			16	15
		Junior Year		
CHM	303-304	Physical Chemistry	3-3-4	3-3-4
CHM	406	Qualitative Organic Analysis	2-6-4	
CHM	495	Introduction to Research		1-0-0
CHM	417	Inorganic Chemistry		3-0-3
CPS	132	Computer Programming for Science	3-0-3	
—	—	General education and breadth requirements	6-0-6	9-0-9
			17	16
		Senior Year		
CHM	415	Analytical Chemistry	2-6-4	
CHM	496-497	Chemistry Seminar	1-0-1	1-0-1
CHM	498	Research and Thesis	3-0-3	
CHM	—	Chemistry electives[6]	3-0-3	3-0-3
—	—	General education and breadth requirements	3-0-3	6-0-6
—	—	Electives[7]	3-0-3	6-0-6
			17	16

[1]Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements. Some general education courses are specified in the program (e.g., CHM 123-124); others are to be chosen from the listing of approved courses.

[2]For example 3-3-4 means 3 class hrs., 3 lab. hrs., 4 sem. hrs. of credit.

[3]May substitute more advanced courses depending on background. Consult chairperson. Students with weak or no chemistry background begin with CHM 115.

[4]In the event of waiver or advanced placement, take another English course or nonscience elective.

[5]For advanced placement, consult chairperson, Department of Languages.

[6]Choose any 400-level chemistry or, with the permission of the chairperson, any graduate-level chemistry course. With the permission of the chemistry chairperson, one advanced course in physics, mathematics, computer science, or biology may be substituted.

[7]Any courses for which the student has the prerequisites. CPT 401, 401L; MAT 509 are recommended for students interested in industrial chemistry.

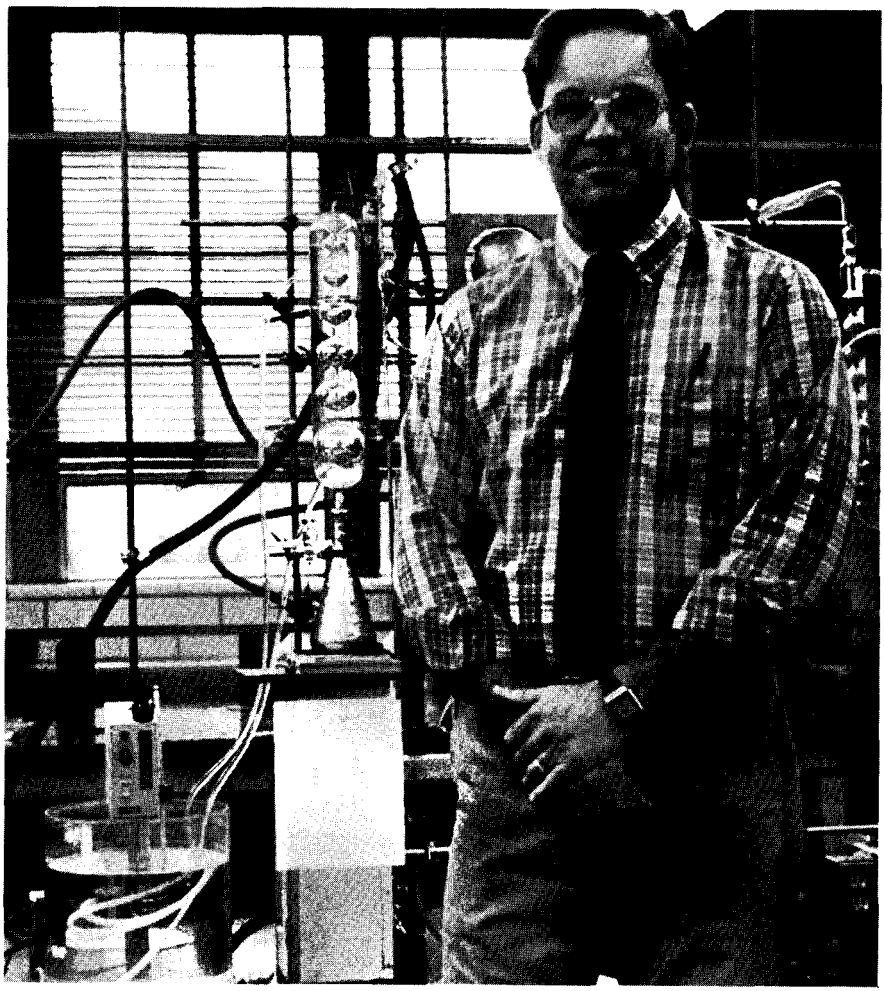
FACULTY

B. Lawrence Fox, *Chairperson*
Professors: Eveslage, Fox, Fratini, Keil, Lucier, Michaelis, Singer
Associate Professor: Knachel
Assistant Professor: Johnson

COURSES OF INSTRUCTION

*CHM 110. GENERAL CHEMISTRY: A terminal course for the nonscience major involving fundamental chemical principles and their applications to problems of modern society. *3 sem. hrs.*

CHM 110L. GENERAL CHEMISTRY LABORATORY: Laboratory course to complement CHM 110. *1 sem. hr*



*CHM 115. COLLEGE PREPARATORY CHEMISTRY: A one-term course for students desiring to enter a science or engineering program but whose background is insufficient for CHM 123-124. Unacceptable for credit toward chemistry requirements in any chemistry program. *3 sem. hrs.*

CHM 115L. COLLEGE PREPARATORY CHEMISTRY LABORATORY: Laboratory course to complement CHM 115. *1 sem. hr.*

*CHM 123-124. GENERAL CHEMISTRY: Comprehensive treatment of the fundamentals of general chemistry. Prerequisite: Competence in high school chemistry or successful completion of CHM 115. A placement examination is available for students whose background is doubtful. CHM 123 is a prerequisite for CHM 124. *6 sem. hrs.*

CHM 123L-124L. GENERAL CHEMISTRY LABORATORY: Laboratory course to complement CHM 123-124. One 3-hour laboratory session per week. CHM 123 is a corequisite for CHM 123L. CHM 124 is a corequisite for CHM 124L. *2 sem. hrs.*

CHM 201. QUANTITATIVE ANALYSIS: Fundamental theory and techniques of gravimetric, volumetric, spectrophotometric, and electroanalytical methods of chemical analysis. Two class periods per week. Prerequisites: CHM 124, 124L. *2 sem. hrs.*

CHM 201L. QUANTITATIVE ANALYSIS LABORATORY: Course to accompany CHM 201 lecture. One 4-hour laboratory period per week. *2 sem. hrs.*

CHM 302. PHYSICAL CHEMISTRY: Course especially designed for premedical, predental, or biology majors. Three lectures per week. Prerequisite: CHM 124. First term, each year. *3 sem. hrs.*

CHM 303-304. PHYSICAL CHEMISTRY: Course for chemistry majors and chemical engineers. Three lecture hours per week. Prerequisite: CHM 201 or equivalent; corequisite: MTH 218. Successful completion of CHM 303 required for enrollment in CHM 304. *6 sem. hrs.*

CHM 303L-304L. PHYSICAL CHEMISTRY LABORATORY: Course to accompany CHM 303-304. One 3-hour laboratory each week. Corequisite: MTH 218. *2 sem. hrs.*

CHM 309. CHEMICAL LITERATURE: The use of chemical literature, indexing methods, and patent procedure. Second term, each year. *1 sem. hr.*

CHM 313-314. ORGANIC CHEMISTRY: Major topics in organic chemistry including synthesis, mechanisms, stereochemistry, and spectroscopy. Required of all chemistry majors and students in the life sciences. Prerequisite: CHM 124. CHM 313 is a prerequisite for CHM 314. *6 sem. hrs.*

CHM 313L-314L. ORGANIC CHEMISTRY LABORATORY: Course designed for students in the life sciences. Common separation, purification, and analytical techniques including chromatography and spectroscopy. One 3-hour laboratory per week. Prerequisite: CHM 124L. CHM 313L is a prerequisite for CHM 314L. *2 sem. hrs.*

CHM 315L-316L. ORGANIC CHEMISTRY LABORATORY: Emphasis on synthesis. Required of all B.S. chemistry majors. Prerequisite: CHM 124L. 315L is a prerequisite for 316L. *2 sem. hrs.*

CHM 404. SPECIAL TOPICS IN PHYSICAL CHEMISTRY: Thorough treatment of topics such as macromolecules, spectroscopy, photochemistry, and electrochemistry. *3 sem. hrs.*

CHM 406. QUALITATIVE ORGANIC ANALYSIS: Course in the identification of organic compounds based upon chemical, physical, and spectral properties. Two class periods per week. Prerequisite: CHM 314. *2 sem. hrs.*

CHM 406L. QUALITATIVE ORGANIC ANALYSIS LABORATORY: Course to accompany CHM 406. Two 3-hour laboratory periods each week. *2 sem. hrs.*

CHM 412. INTERMEDIATE ORGANIC CHEMISTRY: Modern theory and practice of organic chemistry. May include structure-reactivity relationships, reaction mechanism, and synthetic topics not normally treated in introductory courses. Prerequisites: CHM 302 or equivalent, CHM 313-314, and senior standing *3 sem. hrs.*

CHM 415. ANALYTICAL CHEMISTRY: Methods of analysis based on modern instrumentation, including chemical, electrical, and spectral methods. Prerequisites: CHM 201, and 302 or 303-304. *2 sem. hrs.*

CHM 415L. ANALYTICAL CHEMISTRY LABORATORY: Course to accompany CHM 415. Two 3-hour laboratory sessions each week. Prerequisites: CHM 201L, CHM 302 or equivalent. *2 sem. hrs.*

CHM 417. INORGANIC CHEMISTRY: Introductory course in fundamentals of modern inorganic chemistry: atomic structure, principles of structure and bonding, acid-base chemistry, periodicity, coordination compounds, nonaqueous solvents, electrochemistry, molecular symmetry, and the chemistry of selected representative elements. Prerequisites: CHM 124, 314. Corequisite: CHM 302 or 304. *3 sem. hrs.*

CHM 420. BIOCHEMISTRY: The fundamentals of biochemistry. Prerequisite: CHM 314. Second term, each year. Recommended for nonchemistry majors. *3 sem. hrs.*

CHM 490L. SCIENTIFIC GLASSBLOWING: The theory and practice of glass working. Under the supervision of a professional glassblower, students learn to make several standard seals and fabricate pieces of glass apparatus. Enrollment limited. Permission of departmental chairperson required. One 3-hour laboratory each week. *1 sem. hr.*

CHM 495. INTRODUCTION TO RESEARCH SEMINAR: Research topics presented by visiting scientists and faculty, and the results of thesis research by senior students. Required of all junior chemistry majors in the B.S. program. Grading option 2. *No credit*

*CHM 496. PROFESSIONAL PRACTICES SEMINAR: Topics are career opportunities in chemistry, resumé preparation, and interviewing. Some practical experience in technical report writing and oral presentation. Required of all chemistry majors. *1 sem. hr.*

CHM 497. RESEARCH SEMINAR: A series of seminars as described under CHM 495. Required of all senior chemistry majors in the B.S. program. *1 sem. hr.*

CHM 498-499. RESEARCH AND THESIS: All students in the B.S. program (except Co-op) are required to enroll for a minimum of 3 semester hours in a research course (CHM 498). Students may elect to take additional research credits (CHM 499) only if the work extends for more than 2 semesters. Successful completion of research courses requires the submission of a typewritten thesis and the presentation of a seminar. *3-6 sem. hrs.*

*General education course. See Chapter V.

CLASSICS (CLA)

Courses in classics, taught in English, are offered by the Department of Languages. See LNG. See also HMS.

COURSES OF INSTRUCTION

CLA 203. CLASSICAL MYTHOLOGY: An introduction to the principal cycles of Greek and Roman mythology, with emphasis on the influence of classical mythology upon the literature and art of the Western world. No prerequisite. *2 sem. hrs.*

CLA 205. INTRODUCTION TO GREEK ARCHAEOLOGY: Survey of Greek archaeology from the Neolithic to the Classical Age, including consideration of the theory and technique of archaeological investigation. Emphasis on the cultures of the Minoan Bronze Age, the Mycenaean Bronze Age, and the Classical Age. *3 sem. hrs.*

CLA 350. CLASSICAL LITERATURE IN TRANSLATION: Course to acquaint students not majoring or minoring in classical languages with Latin and Greek authors and literary movements. Conducted in English. Repeatable when subtitle and content change. *3 sem. hrs.*

CLINICAL LABORATORY SCIENCES (CLS)

The Clinical Laboratory Science programs at the University of Dayton include Medical Technology (MET), Cytotechnology (CTT), and Nuclear Medicine Technology (NMT). These health-related programs share a similar 3 + 1 curricular structure. The first three (preclinical) years of each program are spent at the University in a sequence of courses that provide a liberal arts education with an emphasis in the life sciences. The fourth (clinical) year is a 12-to-13-month period of instruction carried out at an affiliated hospital school of medical technology, cytotechnology, or nuclear medicine technology. The clinical year instruction provides the technical training requisite for the particular health professional area.

The first three full terms of the preclinical curricula are identical for the MET, CTT, and NMT programs and are very similar to the curricula for biology and premedical/predental majors. This common curriculum provides students with the time and flexibility to examine all three health-related majors as well as those in biology and premedicine before committing themselves to specific educational pathways in the second term of the sophomore year. Essentially, students who are interested in medical technology, cytotechnology, or nuclear medicine technology are undeclared Clinical Laboratory Science students until the middle of the sophomore year.

The common curriculum for clinical laboratory science programs is listed below. The remaining terms of the specific preclinical and clinical programs are described elsewhere in this chapter under MET, CTT, and NMT.

CLINICAL LABORATORY SCIENCE PROGRAMS (CTT, MET, NMT)[1]

Dept.	*No.*	*Course*	*1st Term*[2]	*2nd Term*
		Freshman Year		
BIO	100	Freshman Seminar	1-0-0	
BIO	151-152	Concepts of Biology	3-0-3	3-3-4
CHM	123-124	General Chemistry[3]	3-3-4	3-3-4
MTH	112-207	Calculus, Statistics[4]	3-0-3	3-0-3
ENG	101-102	College Composition I and II	3-0-3	3-0-3
SPE	101	Fundamentals of Effective Speaking		3-0-3
—	—	General education requirement[5]	3-0-3	
			16	17
		Sophomore Year		
CHM	313	Organic Chemistry	3-3-4	
PHY	201	General Physics	3-2-4	
HST	101 or 102	History of Western Civilization	3-0-3	
—	—	General education requirements[5]	6-0-6	
			17	

[1]Consult General Requirements for All Bachelor of Science programs and Chapter V for General Education Requirements.

[2]For example, 3-0-3 means 3 hrs. class, 0 hrs. lab., 3 sem. hrs. of credit.

[3]Begin in CHM 115 if background is insufficient for CHM 123.

[4]If background is not suitable for calculus, then substitute MTH 101, precalculus, for MTH 112.

[5]Some general education courses are specified in the program (e.g., BIO 152); others are to be chosen from the listing of approved courses. See Chapter V.

COMMUNICATION (COM)

The course requirements for communication majors are 36 semester hours distributed as follows:

For General Major in Communication (COM):

1. SPE 101, COM 120, and 30 semester hours in COM, SPE, and JRN courses.
2. At least 24 semester hours must be 300-400 level courses.

For Concentrated Major in Communication:

Broadcasting (RTV):
1. SPE 101, COM 120, SPE 206, SPE 316, SPE 329, SPE 412.
2. One of the following: SPE 410, SPE 416, SPE 420.
3. Six semester hours of COM courses; 6 semester hours of JRN courses.
4. Three semester hours of any COM, JRN, or SPE course.

Communication Management (CMT):
1. SPE 101, COM 313, SPE 312, COM 308, COM 309, COM 310, COM 330.
2. Fifteen semester hours of any COM, JRN, or SPE courses.

Journalism (JRN):
1. SPE 101, COM 120, JRN 206, JRN 301, JRN 400, COM 440.
2. One JRN elective.
3. Six semester hours of COM courses; 6 semester hours of SPE courses.
4. Three semester hours of any COM, JRN, or SPE course.

Public Relations (PUB):
1. SPE 101, COM 120, COM 301, COM 402, COM 455, JRN 206.
2. Six semester hours of JRN courses; 6 semester hours of SPE courses.
3. Six semester hours of any COM, JRN, or SPE courses.

Teacher certification through the E-11 program is an option for communication majors. Consult department chairperson for details.

Minors in communication must have SPE 101 and 12 semester hours of upper-level courses selected through consultation with the department chairperson.

A minor in political journalism is available for political science majors. The political journalism minor consists of COM 120, JRN 206, and any three of the following five courses: JRN 301, JRN 303, SPE 301, COM 314, COM 440.

The Department of Communication encourages co-curricular activities: Speech and Debate, Flyer News, WDCR radio, WVUD radio, Public Relations Student Society of America, Society of Professional Journalists (Sigma Delta Chi), Alpha Epsilon Rho, Advertising Club, and Women in Communication, Inc.

PROGRAM—A3: BACHELOR OF ARTS WITH A MAJOR IN COMMUNICATION[1]

	Semester Hours
Major program	36
English 101 and 102	6
Natural science	7
Mathematics	3
Philosophy and/or religious studies	12
Two units of 12 sem. hrs. each selected from anthropology, economics, political science, psychology, sociology, management, criminal justice, education, marketing, military science, home economics, social work, and ASI. (At least 6 sem. hrs. in each unit must be 300-400 level.)	24
Anthropology, economics, political science, psychology, sociology if none of these is chosen as one of the 12-sem. hr. units above	6
Two units of 9 sem. hrs. each selected from English, languages, history, philosophy, religious studies, performing and visual arts. (At least 6 sem. hrs. must be 300-400 level in any of the following four units: English, history, philosophy, religious studies.)	18
General education courses and academic electives to total at least	120

[1]See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

FACULTY

Donald B. Morlan, *Chairperson*
Professors: Morlan, Rang, Wolff
Associate Professors: Blatt, Harwood
Assistant Professors: Lain, Pease, D. Robinson, Skill, Weatherly, Williams
Instructors: Bedard, Butler, A. Robinson, Wallace

COURSES OF INSTRUCTION

COM 120. INTRODUCTION TO MASS COMMUNICATION MEDIA: The nature and purpose of mass communications: newspapers, television and radio, public relations, advertising, occupational opportunities, organizational structure of modern newspaper, and news on television and radio. *3 sem. hrs.*

COM 230. FUNDAMENTALS OF LISTENING: Study of fundamental theories and related techniques applied during comprehensive, discriminate, empathic and appreciative listening; emphasis on listening competently and responsibly. *3 sem. hrs.*

COM 301. PUBLICITY AND PUBLIC RELATIONS: Introduction to public relations. Familiarization with the public relations environment and process. Emphasis on the practitioner's role as agent for change and adaptation. *3 sem. hrs.*

COM 303. FREE-LANCE WRITING: Steps of free-lance publication, from market analysis to query letters to writing and rewriting. Mostly nonfiction, magazine markets, some newspaper and nonfiction book markets. *3 sem. hrs.*

COM 304. ADVERTISING: Nature and functions of advertising; preparation of layouts, writing of copy; selection and evaluation of media. Coordination of advertising with other marketing efforts. Social implications of advertising. (See MKT 421.) *3 sem. hrs.*

COM 305. PROPAGANDA ANALYSIS: Use and abuse of propaganda. Editorial persuasion. Propaganda devices and techniques. An application of the principles of Aristotelian logic to the field of mass communication. *3 sem. hrs.*

COM 308. INTERPERSONAL COMMUNICATION: Study of the student's own communication behavior through face-to-face spontaneous interaction with others. *3 sem. hrs.*

COM 309. COMMUNICATION AND CONFLICT RESOLUTION: Examination of the functions of communication in several types of conflict such as marital conflict, racial conflict, and role conflict, and the methods and strategies of communication to reduce these conflicts. *3 sem. hrs.*

COM 310. COMMUNICATION IN ORGANIZATIONS: Analysis of message initiation, diffusion, and reception in organizations; study of various methodological approaches for the purpose of conducting a communication audit within an organization. *3 sem. hrs.*

COM 313. SMALL GROUP COMMUNICATION: Guiding principles used by participants and leaders in preparing and conducting small group conferences and discussions; policy-making conferences staged. *3 sem. hrs.*

COM 314. POLITICAL CAMPAIGN COMMUNICATION: Analysis of the nature and functions of selected communication variables within political election campaigns. *3 sem. hrs.*

COM 325. NONVERBAL COMMUNICATION: Survey of theory and research, and experiential learning in nonverbal communication. Examination of the influence of environmental factors, physical behavior, and vocal cues on human communication. *3 sem. hrs.*

COM 330. INTERVIEWING FOR COMMUNICATION AND BUSINESS: Analysis of communication in structured dyadic interaction. Emphasis on the following types of interviews: information-gathering, employment, appraisal, and persuasive. Application through role playing and feedback systems. *3 sem. hrs.*

COM 391. INDEPENDENT STUDY 1: Supervised study involving directed readings, individual research (library, field, or experimental), or projects in the specialized areas of communication. May be repeated once. Prerequisite: Permission of department chairperson. *3 sem. hrs.*

COM 397. COMMUNICATION PRACTICUM: Contracted participation in an approved communication organization. One sem. hr. per term to a maximum of 6. (Only 3 sem. hrs. may be applied to communication major.) Grade option 2 only. *1-6 sem. hrs.*

COM 398. COMMUNICATION INTERNSHIP: Communication work experience in an approved organization. Application approval: For summer, Dec. 15; for fall, Mar. 1; for spring, Oct. 15. Prerequisites: 24 sem. hrs. and 3.0 average in the major; 75 total sem. hrs. and 2.75 cum. average; permission of department chairperson. *3 or 6 sem. hrs.*

COM 402. PRACTICAL METHODS FOR PUBLIC RELATIONS: Procedures and methods of putting the public relations process into effect. Emphasis on specific writing skills and problem-solving techniques. Prerequisite: COM 301. *3 sem. hrs.*

COM 404. SPECIAL TOPICS IN COMMUNICATION: Concentrated study in specific areas of speech communication. May be repeated once with change of topic. *3-6 sem. hrs.*

COM 410. FAMILY COMMUNICATION: Study of the family from a communication perspective, considering the communication processes within the family and the extent to which communication affects and is affected by the family. *3 sem. hrs.*

*COM 430. DEVELOPMENT OF MASS MEDIA: History and analysis of the development and interdependence of mass media, print and electronic. Emphasis on its role in political and economic progress of U.S. and attendant responsibility. *3 sem. hrs.*

COM 440. THE LAW AND NEWS MEDIA: Limitations of freedom of the press. The right of the people to know and the news media to report, within the limits of decency, fair comment, and privacy. Censorship. Off-the-record material. Libel laws, copyright restrictions. Postal regulations. *3 sem. hrs.*

COM 455. PUBLIC RELATIONS WORKSHOP: Application of policy objectives to public relations program development. Students plan and carry out a public relations program for an established organization, working out solutions to communication and public relations problems. Prerequisite: JRN 206 or COM 402. *3 sem. hrs.*

COM 491. PUBLIC RELATIONS INTERNSHIP: Practical public relations participation in an approved organization. Application approval: For summer, Dec. 15; for fall, Mar. 1; for spring, Oct. 15. Prerequisites: 24 sem. hrs. and 3.0 average in the major; 75 total sem. hrs. and 2.75 cum. average; permission of department chairperson. *3 or 6 sem. hrs.*

*General education course. See Chapter V.

COMPUTER SCIENCE (CPS)

The Computer Science Department offers programs leading to the Bachelor of Science in three areas of study. The student may select the major Computer Science, Program S3; Systems Analysis, Program S3A; or Computer Science-Physics, Program S3P.

A minor in computer science includes CPS 150-151, 250, 350, and three other courses numbered 320 or above, selected in consultation with the department chairperson.

A minor in systems analysis includes CPS 150-151, 242, 310, 312, and two courses numbered 320 or above, selected in consultation with the department chairperson.

PROGRAM–S3: BACHELOR OF SCIENCE WITH A MAJOR IN COMPUTER SCIENCE (CPS)[1]

This program emphasizes computer science concepts with particular attention to computer software and its application to science and engineering.

	Semester Hours
Computer science—basic programming, CPS 150-151, 242, 250; 30 additional sem. hrs. of CPS, 24 of which must be in courses numbered 310 or above, including CPS 346, 350, 353	45
Mathematics—basic calculus, MTH 118-119; discrete mathematics; 6 sem. hrs. beyond calculus; linear algebra, MTH 302; normally statistics	17
Natural science—including PHY 206-207. One physics laboratory is recommended	12
Communication skills	3-9
Humanities	9
Social and behavioral sciences	6
Philosophy and/or religious studies	12
General education courses and academic electives[2] to total at least	120

[1]See General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

[2]A concentration or a minor in a specific discipline is recommended.

PROGRAM–S3A: BACHELOR OF SCIENCE WITH A MAJOR IN SYSTEMS ANALYSIS (SYA)[1]

This program emphasizes computer science concepts with particular attention to computer software and its application to commerce and the related areas of systems science.

	Semester Hours
Computer science—basic programming, CPS 150-151, 242, 250; 24 additional sem. hrs. of CPS in courses numbered 310 and above, including CPS 310, 312, 346, 350	40
Mathematics—basic calculus, linear algebra, statistics (discrete mathematics recommended); for example, MTH 112-113, 302, 367	12
Natural science	8
Business—A minor in ACC, ECO, FIN, MGT, or MKT; or the following block of courses: ACC 207-208, ECO 203-204, MGT 305, MKT 305	18

Communication skills 3-9
Humanities 9
Social and behavioral sciences 6
Philosophy and/or religious studies 12
General education courses and academic electives to total at least 120

[1]See General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

PROGRAM—S3: BACHELOR OF SCIENCE WITH A MAJOR IN COMPUTER SCIENCE-PHYSICS (CSP)[1]

This program emphasizes computer science concepts with particular attention to computer software and its application to physics.

Semester Hours

Computer science—basic programming, CPS 150-151, 242, 250; 30 additional sem. hrs. of CPS, 24 of which must be in courses numbered 310 or above, including CPS 346, 350, and 353. Additional numerical analysis courses are recommended 46
Mathematics—basic calculus, MTH 118-119, 218; differential equations, MTH 219; linear algebra, MTH 302. Additional statistics recommended 18
Physics—general physics, PHY 206-207-208, with PHY 210L-211L; basic electronics, PHY 214; 5 upper-level courses, including PHY 314 24-27
Communication skills 3-9
Humanities 9
Social and behavioral sciences 6
Philosophy and/or religious studies 12
General education courses and academic electives to total at least 120

[1]See General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

For each of the programs—S3, S3A, S3P—the department recommends that a student repeat any course in the major for which a grade below C (under grading option 1) has been earned.

FACULTY

Lawrence A. Jehn, *Chairperson*
Professors: Jehn, Winslow
Associate Professors: Jarrett, Kester, Lang, Neuendorf, Schoen
Assistant Professor: Gowda
Instructors: Shah, Stoehr
Lecturer: Maruyama
Adjunct Associate Professor: Lokai
Adjunct Assistant Professors: Jansen, Keim

COURSES OF INSTRUCTION

CPS 107. COMPUTERS AND SOCIETY: Nontechnical introductory survey of the history and organization of digital computers; the diverse application of computers in government, business, education, and the arts; and the psychological and sociological impact of the computer age. Not open to CPS, CSP, SYA majors. *3 sem. hrs.*

CPS 132. COMPUTER PROGRAMMING FOR ENGINEERING AND SCIENCE: Fundamentals of computer programming including algorithms, program structure, library routines, debugging, and program verification. Calculus-based computer solutions of problems from science and engineering using FORTRAN. Prerequisite: MTH 118. *3 sem. hrs.*

CPS 144. INTRODUCTION TO COMPUTER PROGRAMMING: Fundamentals of computer programming including algorithms, program structure, library routines, debugging, and program verification. Computer solutions of problems from social sciences using a suitable compiler language such as FORTRAN, PL/I, or Pascal. *1-3 sem. hrs.*

CPS 145. COBOL PROGRAMMING: Basic programming theory and practice using the COBOL language for business-oriented problems. Corequisite: CPS 245 or 250. *1-3 sem. hrs.*

CPS 146. (LIST PROCESSING) PROGRAMMING: Basic programming theory and practice using a language suitable to list-processing applications such as LISP or SNOBOL. *3 sem. hrs.*

CPS 150. ALGORITHMS AND PROGRAMMING I: Algorithms, programs, and computers. Algorithm development, basic programming and programming structure. Debugging and program verification. Data representation. Introduction to computer system architecture. Computer solutions to numeric and non-numeric problems using a compiler language. *4 sem. hrs.*

CPS 151. ALGORITHMS AND PROGRAMMING II: Continuation of CPS 150. Emphasis on program design, development and style, string processing, data structure, segmentation, linkage, subroutines, and re-entrant routines, using a compiler language. Prerequisite: CPS 150. *4 sem. hrs.*

CPS 242. INTRODUCTION TO FILE PROCESSING: The file processing environment, file I/O, sequential access, random access, basic data structures, and overview of database management systems using a suitable compiler language such as COBOL. Prerequisite: CPS 150. Corequisite: CPS 151. *3 sem. hrs.*

CPS 245. ASSEMBLER PROGRAMMING: Machine and assembler language programming; macros; input-output techniques. Prerequisite: CPS 144. *3-4 sem. hrs.*

CPS 248. INTERMEDIATE PROGRAMMING: Advanced topics and programming techniques in FORTRAN, PL/I, and Assembler. Prerequisite: CPS 144. *3 sem. hrs.*

CPS 250. ALGORITHMS AND PROGRAMMING III: Continuation of CPS 151. Advanced programming topics and techniques using compiler languages and assembler language. Emphasis on program structure for large programs. Computer solutions to numeric and non-numeric problems. Prerequisite: CPS 151. *4 sem. hrs.*

CPS 304. COBOL PROGRAMMING: Basic programming theory and practice using the COBOL language for business-oriented problems. Not open to CPS, CSP, SYA majors. *3 sem. hrs.*

CPS 310. SYSTEMS ANALYSIS: Basic system analysis tools; identifying requirements, planning and measuring effectiveness of computer information systems; system life cycle studies. Prerequisite: CPS 242. *3 sem. hrs.*

CPS 312. SYSTEMS DESIGN: State-of-the-art concepts and techniques involved in designing systems, including documentation, telecommunications, security, software packages, economics, productivity, design methodologies, and maintenance. Prerequisite: CPS 310. *3 sem. hrs.*

CPS 315. THE COMPUTING WORLD: Analysis of the tools and techniques of computers and of their impact on society. A framework for making professional decisions in the context of their social impact. Prerequisites: CPS 151, junior standing. *3 sem. hrs.*

CPS 341. DISCRETE STRUCTURES: Set algebra including mappings and relations; algebraic structures including semi-groups and groups; elements of theory of directed and undirected graphs; Boolean algabra and propositional logic. Prerequisite: CPS 151. *3 sem. hrs.*

CPS 342. DATA STRUCTURES: Basic concepts of data; linear lists, strings, arrays, and orthogonal lists; representation of trees and graphs; multilinked structures; symbol tables and searching techniques; sorting techniques. Prerequisite: CPS 248 or 250. *3 sem. hrs.*

CPS 343. COMPARATIVE LANGUAGES: Programming language constructs, organization, specification, and analysis. Prerequisite: CPS 342 or 350. *3 sem. hrs.*

CPS 346. OPERATING SYSTEM: Semaphores, conditions, monitors, and kernels. Concurrent programming, interrupts, memory, and process management. Design and implementation of a simple operating system using concurrent languages. Prerequisites: CPS 245 or 250, 342 or 350. *3 sem. hrs.*

CPS 350. DATA STRUCTURES AND ALGORITHMS: Basic concepts of data; list, strings, arrays, trees and graphs, abstract data types, multilinked structures; symbol tables; searching and sorting. Use of relations, functions, and graphs in data management. Random access and representation of data structures on storage devices. Prerequisite: CPS 250. *4 sem. hrs.*

CPS 353. NUMERICAL METHODS I: Study of the algorithms of numerical mathematics with emphasis on interpolation, the solution of nonlinear equations, and linear systems of equations including matrix methods; analysis of errors associated with the algorithms. Prerequisites: FORTRAN, MTH 302. *3 sem. hrs.*

CPS 354. NUMERICAL METHODS II: Study of the algorithms of numerical mathematics with emphasis on functional approximation, numerical differentiation and integration, numerical solution of ordinary differential equations and boundary value problems; analysis of errors associated with the algorithms. Prerequisite: CPS 353. *3 sem. hrs.*

CPS 387. COMPUTER SYSTEM DESIGN I: Design of combinatorial and sequential logic circuits using current integrated circuit devices. Discussion of encoders, decoders, registers, counters, etc. as applied to design and use of arithmetic, logic, and storage units. Laboratory experiments with these devices. Prerequisites: CPS 250, PHY 207. *3 sem. hrs.*

CPS 388. COMPUTER SYSTEM DESIGN II: Detailed analysis of a specific microcomputer programmed in machine, assembler, and a higher-level language. Discussion of interfacing with devices such as displays, terminals, and other computers. Experiments with such interfacing in the laboratory. Prerequisite: CPS 387. *3 sem. hrs.*

CPS 411. MANAGEMENT INFORMATION SYSTEMS: The management information systems environment. The theory, technology, development of information systems. Emphasis on integration of information systems for decision support and other management information requirements. Prerequisite: CPS 310. *3 sem. hrs.*

CPS 418. SOFTWARE ARCHITECTURE: A thorough examination of modern software methodologies, of the managerial and technological skills essential to the design and construction of quality software, and of the productivity and human factors in software development. Prerequisite: CPS 312. *3 sem. hrs.*

CPS 424. DISCRETE EVENT SIMULATION TECHNIQUES: Design and use of simulation models; study and use of special-purpose simulation languages such as GPSS and GASP IV, SIMSCRIPT II.5. Applications. Prerequisite: MTH 367, CPS 151, or permission. *3 sem. hrs.*

CPS 430. DATA BASE MANAGEMENT SYSTEMS: Physical and logical organization of data files; hierarchial, network, and relational data base models; the data definition language and the data manipulation language of a commercial data base management system such as IDMS; query languages. Prerequisites: CPS 242, 350. *3 sem. hrs.*

CPS 444. SYSTEMS PROGRAMMING I: Analysis of compilers and their construction; programming techniques discussed in the current literature; advanced computer applications in mathematical and nonnumeric areas. Prerequisites: CPS 346, 350. *3 sem. hrs.*

CPS 445. SYSTEMS PROGRAMMING II: A continuation of CPS 444, with emphasis on the application of the topics discussed. Prerequisite: CPS 444. *3 sem. hrs.*

CPS 446. OPERATION SYSTEM PRINCIPLES Design and implementation of a multi-user operating system, including concurrent processes, usage of monitors and kernels, process and device scheduling, virtual memory with paging, process synchronization and communication, input and output spooler, file systems, reliability and protection, interrupts, distributed system concepts. Prerequisites: CPS 346, 350. *3 sem. hrs.*

CPS 455. NUMERICAL ANALYSIS I: Error analysis, mathematical development of functional approximation including interpolation, quadrature, numerical differentiation, solution of ordinary differential equations. Prerequisites: FORTRAN, MTH 302, 319. Recommend CPS 353. *3 sem. hrs.*

CPS 456. NUMERICAL ANALYSIS II: Mathematical development of the method of least squares, minimax approximation, solution of partial differential equations, applications. Prerequisite: CPS 455. *3 sem. hrs.*

CPS 460. COMPUTER GRAPHICS: Introduction to graphics devices and software graphic primitives (points, lines, characters), two-dimensional transformations, clipping, survey of display devices and methods. Graphic input devices, representation of curves and surfaces in space. Prerequisites: CPS 342 or 350; MTH 219, 302. *3 sem. hrs.*

CPS 470. DATA COMMUNICATION: Principles of telecommunications hardware and software. Analysis of communication protocol layers with respect to performance, error handling, and control functions. Review of troubleshooting techniques currently in use. Prerequisites: CPS 346, 350. *3 sem. hrs.*

CPS 472. COMPUTER NETWORKING: Concepts and goals of computer networks (local area and long-haul). Network protocols, analysis, design management. OSI layers, gateways. Network topologies and case studies. Prerequisites: CPS 470, MTH 367. *3 sem. hrs.*

CPS 480. ARTIFICIAL INTELLIGENCE: Basic concepts and techniques of intelligent systems. Emphasis on representations, strategies, expert system, logic systems, perception, applications, natural languages. Prerequisite: CPS 342 or 350. *3 sem. hrs.*

CPS 482. AUTOMATA THEORY: Finite automata, sequential machines, survey of formal languages, introduction to computability, recursive functions, and Turing machines. Prerequisite: CPS 341. *3 sem. hrs.*

CPS 496. COOPERATIVE EDUCATION: Computer science work experience in an approved organization. Prerequisite: 12 sem. hrs. of upper-level CPS courses with GPA of 3.0; total 90 sem. hrs. and 2.75 GPA. Permission of department advisor. Not open to students with CPS 497 credit. *3 sem. hrs.*

CPS 497. INTERNSHIP: Computer science work experience in an approved organization. Prerequisite: 12 sem. hrs. of upper-level CPS courses with GPA of 3.0; total 90 sem. hrs. and 2.75 GPA. Permission of department advisor. Not open to students with CPS 496 credit. *3 sem. hrs.*

CPS 498. PROBLEMS IN (NAMED AREA): Individual readings and research in a specialized area. (See CPS 499.) By arrangement. May be taken more than once for additional credit. Prerequisite: Permission of the department. *1-4 sem. hrs.*

CPS 499. (SPECIAL TOPICS): Lectures or laboratory work in such areas as artificial intelligence, computer architecture, information retrieval, microprogramming, multiprogramming techniques, numerical analysis, time-sharing topics, graphics, data communications, parallel processing. By arrangement. May be taken more than once. Prerequisite: Permission of the department. *1-4 sem. hrs.*

CRIMINAL JUSTICE (CRJ)

The University of Dayton's criminal justice faculty believe that the effective functioning of a criminal justice system is essential to an orderly society. Therefore, they are committed to providing their students with a critical theory of criminal justice as well as motivating them to perform within the criminal justice system at the highest level. They are dedicated to helping each student acquire the maximum knowledge and skills that student is capable of.

Program S4, leading to the Bachelor of Science with a Major in Criminal Justice, offers three tracks of study. The student is to select one of the following tracks:

1. *General* (CRJ): This track prepares students for graduate or professional studies or, with appropriate minors, for specialized careers in criminal justice.
2. *Law Enforcement* (CRL): This track prepares students for careers in law enforcement at the local, state, or national levels.
3. *Corrections* (CRC): This track prepares students for line-entry careers in the correctional field—probation and parole counseling, community programs, and other rehabilitative services.

The College of Arts and Sciences will classify students according to their previous academic experience. Students who enter the University of Dayton as freshmen, or as transfers without associate degrees, will be classified under *Option A: Total Program.* Students who transfer here with acceptable associate degrees in specific fields similar or closely related to criminal justice will be classified under *Option B: Transfer Program.*

All students transferring into the curriculum must be in good academic standing and meet entry requirements.

The minor in criminal justice requires 15 semester hours, to include CRJ 205, Introduction to Criminal Justice, *or* CRJ 210, Introduction to Corrections, *or* CRJ 220, Police Organization and Management, and 12 other upper-divisional semester hours in criminal justice subjects. Any student pursuing this minor is encouraged to consult a full-time criminal justice faculty member for guidance.

The criminal justice major may elect a minor by applying the general electives to a specific discipline that is of professional interest. It is necessary that the student obtain the formal approval of the academic advisor, consult the chairperson of the department in which the minor is taken, and register the minor with the respective school or college. Students should note that because of the limited number of elective hours available in the transfer option, they will be required to take a few additional hours beyond those required for the baccalaureate degree in criminal justice if they choose to have minors.

Proficiency examinations for limited CRJ credit are available only to majors who are in-service personnel, i.e., law-enforcement officers or probation and parole officials. Under Option A, students are limited to only 6 semester hours of proficiency examination credit, and under Option B, only 3 semester hours. Such students should make their formal appeals to the director's office at the beginning of each term in order that it can be determined whether scheduling a proficiency examination during that term is warranted.

It is the sole responsibility of students to inform themselves of whatever changes occur in the curriculum and to observe all the regulations, procedures, and requirements of the University and the criminal justice program.

PROGRAM—S4: BACHELOR OF SCIENCE WITH A MAJOR IN CRIMINAL JUSTICE

OPTION A: TOTAL PROGRAM[1]

Semester Hours

Criminal Justice 30-33
All criminal justice majors are required to complete CRJ 205, Introduction to Criminal Justice, and CRJ 320, Research in Criminal Justice.

Social and Behavioral Science 24-27
Course work must include POL 201, The American Political System; POL 301, The American Judicial Process; PSY 101, Introduction to Psychology; PSY 341, Social Psychology, *or* SOC 341, Self and Society; and SOC 327, Criminology.

Humanities 27
Course work must include ENG 272, Expository Writing, *or* ENG 316, Advanced Composition, *or* ENG 474, Argumentation; HST 102, History of Western Civilization Since 1789; PHL 310, Social Philosophy, or PHL 312, Ethics; and PHL 314, Philosophy of Law.

Natural Sciences 8

Communication Skills 3-9

Quantitative Studies 9
Course work must include ACC 301, Financial Reporting and Administration; CPS 144, Introduction to Computer Programming, *or* CPS 304, COBOL Programming; and MTH 207, Statistical Methods for the Behavioral Sciences. CPS 107, Computers and Society, may be taken with the advisor's written permission.

General education courses and electives to bring total to at least 120

[1]Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements. Some general education courses are specified in the program (e.g., PHL 314); others are to be chosen from the listing of approved courses. Courses taken as part of the general education requirement may also fulfill the breadth requirement. Check with advisor.

CRIMINAL JUSTICE AREAS FOR OPTION A: TOTAL PROGRAM

Each criminal justice major is to select one of the following areas of study and formally register the chosen area with the Criminal Justice Program and the College of Arts and Sciences through the assigned academic advisor and the assistant to the dean.

1. *General* (CRJ)
Students are required to take CRJ 210, Introduction to Corrections; CRJ 220, Police Organization and Management; CRJ 305, Criminal Law; and 18 semester hours of criminal justice electives. The following courses are also required:

HST 355 American Urban History *or*
HST 376 Social and Cultural History of the United States *or*
HST 460 U.S. Legal and Constitutional History I

POL 306 Public Policy Analysis
POL 413 Politics of Bureaucracy and Regulation *or*
SOC 336 Organizations in Modern Society
PSY 363 Abnormal Psychology
SOC 328 Racial and Ethnic Minorities

2. *Law Enforcement* (CRL)
Students are required to take CRJ 220, Police Organization and Management; CRJ 305, Criminal Law; CRJ 310, Law of Evidence; CRJ 315, Criminal Procedure; and 12 semester hours of criminal justice electives. The following courses are also required:
ENG 370 Report Writing
HST 460 U.S. Legal and Constitutional History I
POL 413 Politics of Bureaucracy and Regulation *or*
SOC 328 Racial and Ethnic Minorities *or*
SOC 336 Organizations in Modern Society
POL 450 Civil Liberties
PSY 363 Abnormal Psychology
SOC 323 Juvenile Delinquency

3. *Corrections* (CRC)
Students are required to take CRJ 210, Introduction to Corrections; CRJ 323, Management and Treatment of Offenders; CRJ 410, Victimology; and 15 semester hours of criminal justice electives. The following courses are also required:
ENG 370 Report Writing
HST 460 U.S. Legal and Constitutional History I
POL 305 Introduction to Public Administration *or*
POL 306 Public Policy Analysis *or*
SOC 328 Racial and Ethnic Minorities
PSY 431 Interviewing and Counseling
SOC 323 Juvenile Delinquency

OPTION B: TRANSFER PROGRAM

To be admitted as a major in the S4 program under Option B, a transfer student must have received an accredited associate degree in corrections, law enforcement, police administration, police science, or a similar field of criminal justice and must have a 2.5 cumulative grade-point average on a 4.0 grading system. The transfer program offers three areas of study, of which the student is to choose one and formally register the selection with the Admissions Office, the Criminal Justice Program, and the College of Arts and Sciences through the admission counselor, the assigned academic advisor, and the assistant to the dean. The areas are (1) the criminal justice generalist area, (2) the law-enforcement area, and (3) the corrections area. For criminal justice majors who have completed the basic requirements for an accredited two-year criminal justice degree, 66 semester hours beyond the associate degree is suggested.

Prerequisites: The following are required for all criminal justice transfer majors *in addition to* the baccalaureate degree requirements if they were not included in the candidate's associate degree program.

		Semester Hours
Accounting	(ACC 301)	3
American government	(POL 201)	3
Criminology	(SOC 327)	3
English	(ENG 101-102)	6

History of Western Civilization	(HST 102)	3
Introductory Psychology	(PSY 101)	3
Natural science electives with laboratories[1]		8
Statistics[2]	(MTH 207)	3
Introduction to Criminal Justice	(CRJ 205)	3
Research in Criminal Justice	(CRJ 320)	3

[1]Natural sciences are biology, chemistry, geology, and physics.

[2]Prerequisite for MTH 207 as well as CRJ 320 is two years of high school algebra. Students who have not had two years of high school algebra should first take MTH 107. All students are required to complete MTH 207 *and* CRJ 320.

Transfer students must complete the following courses as part of the course of study for criminal justice majors here at the University of Dayton.

Any course that is specifically required of the criminal justice candidate by the University of Dayton for the baccalaureate degree and was taken at the institution conferring the student's associate degree, should not be duplicated. Such a course is to be waived by the student's academic advisor upon the formal request of the student with the final approval of the College of Arts and Sciences and replaced with another course within the same division.

	Semester Hours
Social and Behavioral Sciences	15-18
Course work must include POL 301, The American Judicial Process; PSY 341, Social Psychology, *or* SOC 341, Self and Society.	
Humanities	21-24
Course work must include ENG 272, Expository Writing, *or* ENG 316, Advanced Composition, *or* ENG 474, Argumentation; PHL 310, Social Philosophy, *or* PHL 312, Ethics; and PHL 314, Philosophy of Law.	
Communication Skills	3
Quantitative Studies	3
Course work must include CPS 144, Introduction to Computer Programming, *or* CPS 304, COBOL Programming. CPS 107, Computers and Society, may be taken with the advisor's written permission.	
Area requirements and general education courses to bring total to at least	66

[1]Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements. Some general education courses are specified in the program (e.g., PHL 314); others are to be chosen from the listing of approved courses. Courses taken as part of the general education requirement may also fulfill the breadth requirement. Check with advisor.

CRIMINAL JUSTICE AREAS FOR OPTION B: TRANSFER PROGRAM

1.*General* (CRJ)[1]

Transfer students are required to take CRJ 220, Police Organization and Management; CRJ 305, Criminal Law; and 12 semester hours of criminal justice electives. The following courses are also required:

HST 355 American Urban History *or*
HST 376 Social and Cultural History *or*
HST 460 U.S. Legal and Constitutional History I
POL 306 Public Policy Analysis

POL 413 Politics of Bureaucracy and Regulation *or*
SOC 336 Organizations in Modern Society
PSY 363 Abnormal Psychology
SOC 328 Racial and Ethnic Minorities

2. *Law Enforcement* (CRL)[2]
Transfer students are required to take CRJ 310, Law of Evidence; CRJ 315, Criminal Procedure; and 9 semester hours of criminal justice electives. The following courses are also required:
ENG 370 Report Writing
HST 460 U.S. Legal and Constitutional History I
POL 413 Politics of Bureaucracy and Regulation *or*
SOC 328 Racial and Ethnic Minorites *or*
SOC 336 Organizations in Modern Society
POL 450 Civil Liberties
PSY 363 Abnormal Psychology
SOC 323 Juvenile Delinquency

3. *Corrections* (CRC)[1]
Transfer students are required to take CRJ 323, Management and Treatment of Offenders; CRJ 410, Victimology; and 9 semester hours of criminal justice electives. The following courses are also required:
ENG 370 Report Writing
HST 460 U.S. Legal and Constitutional History I
POL 305 Introduction to Public Administration *or*
POL 306 Public Policy Analysis *or*
SOC 328 Racial and Ethnic Minorities
PSY 431 Interviewing and Counseling
SOC 323 Juvenile Delinquency

[1]CRJ 210, Introduction to Corrections, is specifically required as a prerequisite for students concentrating in the criminal justice generalist area and the corrections area *in addition* to the 18 semester hours in criminal justice for the generalist area if it was not included in the associate degree program.

[2]CRJ 220, Police Organization and Management, and CRJ 305, Criminal Law, are specifically required as prerequisites for students concentrating in the law enforcement area *in addition* to the 15 semester hours in criminal justice if they were not included in the associate degree program.

FACULTY

James A. Adamitis, *Director*
Associate Professor: Adamitis
Assistant Professors: Ingram, Johnson
Adjunct Instructors: Apolito, Dam, Frapwell, Koerner, Lehman

COURSES OF INSTRUCTION

CRJ 205. INTRODUCTION TO CRIMINAL JUSTICE: Introduction to the field of criminal justice, stressing the theoretical foundations, origin, nature, methods, and limitations of criminal justice as a college curriculum. *3 sem. hrs.*

CRJ 210. INTRODUCTION TO CORRECTIONS: The administration of correctional institutions and other detention facilities with emphasis on probation and parole systems and the rehabilitation and treatment of the psychiatrically incarcerated. *3 sem. hrs.*

CRJ 220. POLICE ORGANIZATION AND MANAGEMENT: Principles and mechanisms for effective law enforcement management and responsive municipal police service; various police department structures, program development projects, promotional processes, and managerial techniques. Recommended for students interested in the urban police function and its administration. *3 sem. hrs.*

CRJ 305. CRIMINAL LAW: Principles of criminal liability, preparation of case materials, court procedures, and case disposition. *3 sem. hrs.*

CRJ 310. LAW OF EVIDENCE: Comprehensive study of the rules of evidence, evaluation of evidence and proof (testimonial and physical), and function of evidence within the criminal justice system. Prerequisite: A course in criminal law. *3 sem. hrs.*

CRJ 315. CRIMINAL PROCEDURE: Fundamentals of criminal procedure: arrest, search, and seizure; interrogation, Constitutional limitations upon state and federal rules of criminal procedure. Prerequisite: A course in criminal law. *3 sem. hrs.*

CRJ 320. RESEARCH IN CRIMINAL JUSTICE: Review of the nature, language, and processes of inquiry involving experiments, studies, surveys, and investigations. The instrumentation, types, and structures of content analysis, questionnaires, interviews, and structured observation, including analytic techniques, data processing resources, and preparation of research reports. Required for all CRJ majors. Prerequisite: MTH 207. *3 sem. hrs.*

CRJ 323. MANAGEMENT AND TREATMENT OF OFFENDERS: Theory and practice of conducting and writing social investigations for agencies within the administration of justice, as well as managing and treating criminal offenders in community settings. Prerequisite: A course in corrections. *3 sem. hrs.*

CRJ 325. COMMUNITY AND PUBLIC RELATIONS: Contemporary problems pertaining to criminal justice community relations: training programs, image development, and policies for releasing information to the mass media. *3 sem. hrs.*

CRJ 327. CORPORATE SECURITY MANAGEMENT: Comprehensive managerial approach to developing adequate security systems; emphasis on personnel identification and theft-control procedures including intra-security surveys for deterring espionage, sabotage and subversive line/staff activities. *3 sem. hrs.*

CRJ 330. ORGANIZED CRIME: Social, psychological, and legal factors characterizing criminal careers; regional, political, and financial factors influencing organized crime. *3 sem. hrs.*

CRJ 333. FOUNDATIONS OF CRIMINAL HOMICIDE: Theories and concepts pertinent to the various classes of homicide and the effects certain heinous crimes have had on the regulatory aspects of the legal system. Emphasis on distinguishing characteristics historically pertaining to culpable, justifiable, and excusable homicide. *3 sem. hrs.*

CRJ 336. COMPARATIVE CRIMINAL JUSTICE SYSTEMS: Survey of cross-cultural uniformities and diversities in law-enforcement agencies, correctional systems, and the courts in selected countries. Prerequisite: An introductory course in criminal justice. *3 sem. hrs.*

CRJ 400. CORRECTIONAL LAW: Analysis and historical overview of the law of criminal correction. Emphasis on the current legal rights of inmates of penal institutions, parolees, probationers, and those persons upon whom sentence has not yet been imposed. *3 sem. hrs.*

CRJ 401. POLITICAL VIOLENCE: Interdisciplinary course offered in cooperation with the Department of Political Science. Theoretical approaches to understanding violent change in political institutions, the continuum between violence and non-violence in revolution, revolt, campus dissent, and political assassination. Emphasis on the roles of criminal justice and government agencies in meeting political dissent. (Same as POL 452.) *3 sem. hrs.*

CRJ 405. LABOR RELATIONS IN JUSTICE ADMINISTRATION: The role of law in collective bargaining; the activities of labor organizations; the impact certain unions have had on the administration of justice and law enforcement. *3 sem. hrs.*

CRJ 407. CONSUMER LAW: Analysis of crimes against the consumer; legal systems, consumer structures, and agencies used to establish, advance, and litigate consumers' rights and protections. *3 sem. hrs.*

CRJ 410. VICTIMOLOGY. The victimal justice process as an integral part of the criminal justice system; analysis of the penal couple and victimal receptivity with emphasis on victim-offender relationships, rape, and victim compensation. *3 sem. hrs.*

CRJ 416. DRUG ABUSE: Physical and behavioral variables contributing to drug abuse and narcotic addiction; assessment of several rehabilitation programs and medical treatment centers; emphasis on law and drug abuse cases. *3 sem. hrs.*

CRJ 440. INDEPENDENT STUDY: Directed study and research on selected topics of significant academic publications in law enforcement and criminal justice. Prerequisites: Permission of instructor; an introductory CRJ course. *3 sem. hrs.*

CRJ 447. CONTEMPORARY ISSUES IN JUSTICE ADMINISTRATION: Seminar to identify and discuss the contemporary issues in justice administration. Topics to be assigned by instructor and presented for class discussion by students. *3 sem. hrs.*

CRJ 495. INTERNSHIP IN CRIMINAL JUSTICE I: Supervised experience solely in a civilian capacity in a criminal justice or law-enforcement agency. Open to pre-service criminal justice majors only; in-service students do not qualify. Students who enroll for internship credit are not given a stipend, nor are they permitted to register for CRJ 498 or 499. Credit granted only under grade option 2. Prerequisites: Junior status, 2.5 cumulative grade-point average, and permission of the director of criminal justice. *3 sem. hrs.*

CRJ 496. INTERNSHIP IN CRIMINAL JUSTICE II: Continuation of CRJ 495. *3 sem. hrs.*

CRJ 498. COOPERATIVE EDUCATION IN CRIMINAL JUSTICE I: Structured educational work experience for full-time pre-service criminal justice majors only. Career development and financial assistance for those who qualify and are placed through the University of Dayton's Office of Cooperative Education. Students who enroll for cooperative education credit are not permitted to register for CRJ 495 or 496. Credit granted only under grade option 2. Prerequisites: Sophomore status, 2.5 cumulative grade-point average, and permission from the director of cooperative education and the director of criminal justice. *3 sem. hrs.*

CRJ 499. COOPERATIVE EDUCATION IN CRIMINAL JUSTICE II: Continuation of CRJ 498. *3 sem. hrs.*

CYTOTECHNOLOGY (CTT)

The program leading to a Bachelor of Science with a Major in Cytotechnology consists of three years of instruction at the University of Dayton followed by a 12-month clinical curriculum at a hospital school of cytotechnology. Completion of a clinical program qualifies the students to take the national certifying examination administered by the Board of Registry of the American Society of Clinical Pathologists.

CTT majors, along with MET and NMT majors, are undeclared Clinical Laboratory Science students for their first three full terms. All three majors follow an identical program until the second term of the sophomore year. The common curriculum is described elsewhere in this chapter under the heading of Clinical Laboratory Sciences.

PRECLINICAL YEARS

	Semester Hours
Biology core courses	19
Supporting science courses (CHM, CPS, MTH, PHY)	33
Science elective	3
Communication skills (ENG, SPE)	12
Philosophy and/or religious studies	12
Humanities	9
Social-behavioral science	6
Management	3
Total	97

Major Concentration

Biology Core: Five courses–BIO 151, 152, 310, 403, 412, all with laboratories (except 412L).

Supporting Science: Two mathematics courses—MTH 112, 207. (Substitute MTH 101, precalculus, if background is not suitable for MTH 112.) One computer science course–CPS 144 or 150. Four chemistry courses–CHM 123, 124, 313, 314, all with laboratories. (CHM 115 must precede CHM 123 if chemistry background is inadequate.) Two physics courses—PHY 201, 202, with laboratories.

The curriculum is planned to meet the requirements of the University, the hospitals, and the professional accrediting agencies. The 97 preclinical semester hours must be completed before entering a clinical program at one of the affiliated hospitals.

CLINICAL YEAR

Students apply for the clinical program during their third year. Acceptances are competitive and are based on formal application materials, academic grades, faculty recommendations, and interview performance. The clinical program lasts 12 months, beginning in August and ending the following July. The clinical year curriculum involves formal lectures, seminars, laboratories, and preceptorship experiences. Upon successful completion of the clinical year, students are granted

the Bachelor of Science with a Major in Cytotechnology at the summer commencement.

Tuition and fees for the clinical year are established by the hospital. The University will charge the Basic University Fee for terms I and II. Students will pay their hospital tuition and fees through the University. Information on clinical year tuition and fees, class size, grading policies, dress codes, etc. is presented in the hospital program brochure.

PROGRAM—S9B: BACHELOR OF SCIENCE WITH A MAJOR IN CYTOTECHNOLOGY (CTT)[1]

Dept.	*No.*	*Course*	*1st Term*[2]	*2nd Term*
		See Clinical Laboratory Sciences (CLS) for first three terms of curriculum.		
		Sophomore Year		
BIO	201L	Biology Laboratory Investigations		0-3-1
BIO	310	Histology and Microtechnique		3-3-4
CHM	314	Organic Chemistry		3-3-4
PHY	202	General Physics		3-2-4
HST	—	History elective[3]		3-0-3
				16
		Junior Year		
BIO	403	Physiology	3-3-4	
BIO	412	General Genetics	3-0-3	
PHL	315	Medical Ethics	3-0-3	
ENG	—	English elective[4]	3-0-3	
—	—	General education requirements[5]	3-0-3	6-0-6
MGT	305	Management and Organization		3-0-3
CPS	—	Computer science elective[6]		3-0-3
—	—	Science elective		3-0-3
			16	15

[1]Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

[2]For example, 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. of credit.

[3]Select HST 340 or 341.

[4]Select from ENG 203, 204, 205, 272, 316, 370, 372, 378.

[5]Some general education courses are specified in the program (e.g., PHL 315); others are to be chosen from the listing of approved courses. See Chapter V.

[6]Select CPS 144 or 150.

Senior Year

		Semester Hours
CTT 430	Introduction to Clinical Cytology	2
CTT 431	Reproductive Cytology I	5
CTT 432	Reproductive Cytology II	5
CTT 433	Reproductive Cytology III	4
CTT 434	Respiratory Cytology I	4
CTT 435	Respiratory Cytology II	4
CTT 436	Effusion Cytology	2
CTT 437	Gastrointestinal Cytology	2

CTT 438	Urinary Cytology	2
CTT 439	Breast Cytology	2
CTT 440	Oral Cytology	1
CTT 441	Aspiration Cytology	1
CTT 442	Laboratory Management	1
CTT 443	Cytopreparatory Techniques	1
	Total	36

FACULTY

Charles J. Chantell, *University Program Director*

COURSES OF INSTRUCTION

The courses taken during the first three years at the University of Dayton, listed under Program 59B, are described under the individual departments. The senior year is conducted at affiliated hospitals.

CTT 430. INTRODUCTION TO CLINICAL CYTOLOGY: Introduction to clinical laboratory function including use and maintenance of the clinical microscope and ancillary equipment, preparation of solutions, principles of staining and screening, quality control, and laboratory safety. *2 sem. hrs.*

CTT 431. REPRODUCTIVE CYTOLOGY I: Anatomy, histology, and cytology of the reproductive tract including hormonal cytology in normal and abnormal cells. *5 sem. hrs.*

CTT 432. REPRODUCTIVE CYTOLOGY II: Study of inflammatory processes, carcinomas of the uterine cervix, and adenocarcinomas of the reproductive tract. *5 sem. hrs.*

CTT 433. REPRODUCTIVE CYTOLOGY III: Study of malignant lesions of the reproductive tract, cytogenetics, and the cellular effects of radiation. *4 sem. hrs.*

CTT 434. RESPIRATORY CYTOLOGY I: Anatomy, histology, and cytology of the normal respiratory tract. *4 sem. hrs.*

CTT 435. RESPIRATORY CYTOLOGY II: Study of benign disorders of the respiratory tract and lung cancer. *4 sem. hrs.*

CTT 436. EFFUSION CYTOLOGY: Anatomy and histology of the body cavities and the cytology of effusions, cerebrospinal fluid, and primary tumors. *2 sem. hrs.*

CTT 437. GASTROINTESTINAL CYTOLOGY: Anatomy, histology, and cytology of the normal and the abnormal gastrointestinal tract. *2 sem. hrs.*

CTT 438. URINARY CYTOLOGY: Anatomy, histology, and cytology of the normal and the abnormal urinary tract. *2 sem. hrs.*

CTT 439. BREAST CYTOLOGY: Anatomy, histology, and cytology of the normal and the abnormal breast. *2 sem. hrs.*

CTT 440. ORAL CYTOLOGY: Anatomy, histology, and cytology of the normal and the abnormal oral cavity, larynx, nasopharynx, and paranasal sinuses. *1 sem. hr.*

CTT 441. ASPIRATION CYTOLOGY: Aspiration techniques and cytology of aspirates. *1 sem. hr.*

CTT 442. LABORATORY MANAGEMENT: Familiarization with cytology laboratory procedures including specimen handling, data collection, storage and retrieval, purchasing, and supply inventories. *1 sem. hr.*

CTT 443. CYTOPREPARATORY TECHNIQUES: Detailed study of various methods of obtaining, preparing, processing, and staining cytologic materials. *1 sem. hr.*

ECONOMICS (ECO)

In cooperation with the Department of Economics and Finance in the School of Business Administration, the College of Arts and Sciences offers the degree of Bachelor of Arts with a Major in Economics.

The College recognizes the importance of close cooperation between students and their economics advisors in selecting courses. Flexibility in the program is particularly important, for many areas of study can augment the course work in the major field. For example:

a. An interest in the quantitative aspect of economics can be supported by courses in mathematics and computer science.

b. An interest in international economic problems can be combined with proficiency in one or more foreign languages.

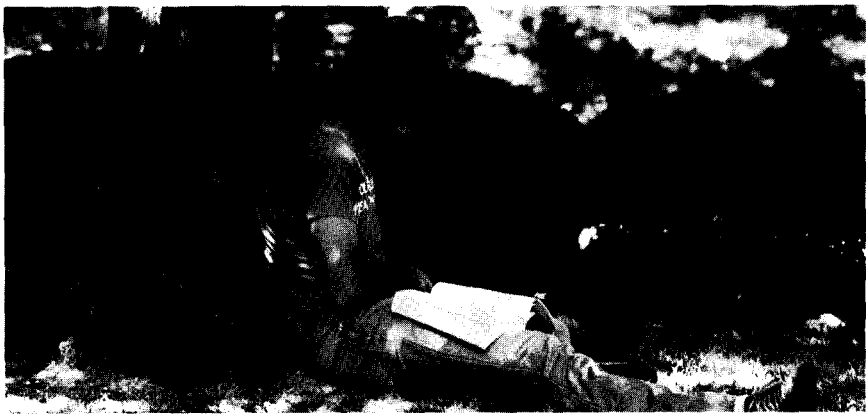
c. An interest in socio-economic problems will naturally lead to coursework in other social sciences.

For course descriptions, see ECO, Chapter VII.

PROGRAM—A4: BACHELOR OF ARTS WITH A MAJOR IN ECONOMICS (ECS)[1]

	Semester Hours
Economics	30
ECO 203, 204, 346, 347, and 18 sem. hrs. of upper-division electives.	
Mathematics	3-6
MTH 207 or MTH 112-113	
Natural science	7
Social and behavioral science	12
Humanities	18
Philosophy and/or religious studies	12
Communication skills	3-9
General education courses and academic electives to total at least	120

[1]See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.



ENGLISH (ENG)

The University requirement in English composition is satisfied by the completion of English 101 and English 102. Students whose verbal scores on the SAT or ACT are sufficiently high to warrant placement in English 114 upon admission or whose acceptance into the University Honors Program places them in English 198 satisfy the University requirement with those one-semester courses, each the equivalent of English 102 as a prerequisite for 200- and 300-level English courses. Students who are placed in English 114 or English 198 do not receive credit for English 101 but are free to take elective course work in place of the waived first semester of freshman composition. Students whose verbal scores on the SAT or ACT do not meet placement criteria for English 101 must enroll in a developmental writing course. Students for whom English is a second language must take a placement test administered by the Department of English. Particulars about the freshman program and testing procedures can be obtained from the chairperson or the director of composition.

Students majoring in English must complete at least 36 semester hours of English courses, including freshman composition, at least one 200-level literature course, and at least 24 semester hours at the 300-400 level. Of the 24 semester hours of upper-level courses, English majors must take at least 3 semester hours in each of the following categories:

1. Literary periods—ENG 407, 410, 414, 433, 438, 444, 448, 451, 453, 455, 482[1], or the equivalent
2. Shakespeare—ENG 362 or an equivalent seminar
3. Major authors—ENG 405, 431, or a seminar on a single author
4. Literary genres—ENG 317, 319, 320, 324, 329, 330, or an approved substitute
5. Writing—ENG 308, 310, 312, 316, 370, 372, 376, 378, or 474

[1]ENG 482 may satisfy the requirement of a course in a literary genre instead.

PROGRAM—A5: BACHELOR OF ARTS WITH A MAJOR IN ENGLISH (ENG)[1]

	Semester Hours
English	36
Speech 101	3
Natural science	7
Mathematics	3
Social and behavioral science	12
Humanities	18
Philosophy and/or religious studies	12
General education courses and academic electives to total at least	120

[1]See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

Information about specific courses that serve the needs of students electing English as a preprofessional program (particularly pre-law), as a teaching concentration, as a pregraduate program, as a writing concentration, etc. can be obtained from the department office and from the student's advisor. Majors should consult the department chairperson for advisor assignment.

English minors must take 12 semester hours of upper-divisional (300-400) courses in addition to the composition requirement.

The department sponsors the University of Dayton English Association, an undergraduate student organization, and *Orpheus*, the literary magazine of the University.

FACULTY

R. Alan Kimbrough, *Chairperson*
Joyce R. Durham, *Director of Composition*
Professors: August, Bedard, Cochran, K. Marre, Martin, Patrouch
Associate Professors: Arons, Cameron, Farrelly, Henninger, Kimbrough, Labadie, Macklin, L. Marre, Means, Palumbo, Pici, Ruff, Stockum
Assistant Professor: Durham

COURSES OF INSTRUCTION

ENG 101. COLLEGE COMPOSITION I: Analysis of the processes of reading and writing aimed at the development and refinement of critical thinking skills, critical reading skills, and critical writing skills. Required departmental examination. *3 sem. hrs.*

ENG 102. COLLEGE COMPOSITION II: Study of appropriate rhetorical structures and styles for analytic, synthetic, and argumentative essays. Practice in developing critical reading and writing skills with an emphasis on writing from sources. Prerequisite: ENG 101. *3 sem. hrs.*

ENG 114. FRESHMAN WRITING SEMINAR: A one-semester composition course for first-semester freshmen who show high proficiency. Open by permission only. *3 sem. hrs.*

ENG 198. FRESHMAN HONORS SEMINAR: Study and seminar discussion of selected literary masterworks and appropriate criticism thereof, with equal emphasis on composition. Open by permission only to freshmen in the University Honors Program. *3 sem. hrs.*

*ENG 203. MAJOR BRITISH WRITERS: Study of four or five writers representative of the principal periods in English literature. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

*ENG 204. MAJOR AMERICAN WRITERS: Study of four or five writers representative of the principal periods in American literature. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

*ENG 205. MAJOR WORLD WRITERS: Study (in translation) of four or five writers representative of the principal periods in world (chiefly Western) literature, exclusive of English and American literature. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 210. POETRY: Study of representative examples of a major literary genre. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 212. DRAMA: Study of representative examples of a major literary genre. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 214. FICTION: Study of representative examples of a major literary genre. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 230. TOPICS IN LITERATURE: Exploration of varying approaches to the study of literature. Can be repeated under special circumstances. Prerequisite: ENG 102 or equivalent. *1-6 sem. hrs.*

ENG 242. SOPHOMORE HONORS: Seminar in which selected works from the literature of Western civilization are studied. By invitation only. *3 sem. hrs.*

ENG 272. EXPOSITORY WRITING: Further practice in writing expository themes and documented papers. A continuation of ENG 102 for students desiring more experience in writing. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 282. INTRODUCTION TO WRITING POETRY: A beginning course in analyzing and writing poetry. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 284. INTRODUCTION TO WRITING FICTION: A beginning course in analyzing and writing short fiction. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 286. INTRODUCTION TO WRITING DRAMA: A beginning course in analyzing and writing short plays. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

*ENG 301. SURVEY OF EARLY ENGLISH LITERATURE: Survey of English literature from the Medieval period to the end of the eighteenth century. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

*ENG 302. SURVEY OF LATER ENGLISH LITERATURE: Survey of English literature from the beginning of the Romantic period to the present. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

*ENG 305. SURVEY OF AMERICAN LITERATURE: Survey of American literature from the Colonial period to the present. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

*ENG 306. SURVEY OF CONTINENTAL LITERATURE: Survey of continental European literature from Homer to the present. Prerequisite: ENG 102 or equivalent. Not open to students who have taken ENG 322. *3 sem. hrs.*

ENG 308. ADVANCED WRITING OF POETRY: Intensive practice in the writing of poems. Prerequisite: ENG 282 or permission. *3 sem. hrs.*

ENG 310. ADVANCED WRITING OF FICTION: Intensive practice in the writing of fiction. Prerequisite: ENG 284 or permission. *3 sem. hrs.*

ENG 312. ADVANCED WRITING OF DRAMA: Intensive practice in the writing of plays. Prerequisite: ENG 286 or permission. *3 sem. hrs.*

ENG 316. ADVANCED COMPOSITION: Intensive practice in the writing of essays and the study of rhetoric. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 317. CONTEMPORARY POETRY: Study of selected poems by recent writers. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 319. CONTEMPORARY FICTION: Study of selected novels and short fiction by recent writers. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 320. CONTEMPORARY DRAMA: Study of selected plays to illustrate major tendencies of modern drama. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 322. MASTERPIECES OF WORLD LITERATURE: Intensive study of major literary works representative of various cultures. Works are studied in translation, although an English language work or two may be included for appropriate comparison. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 324. THE NOVEL: A consideration of selected novels to illustrate various fictional modes. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 325. SCIENCE FICTION: Survey of science fiction with detailed analysis of selected novels and short fiction. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 327. STUDIES IN POPULAR FICTION: Analysis of selected artifacts of popular culture with reference to serious literature. May be repeated as topics change. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 329. SHORT STORY: Study of the techniques employed in the writing of the short story. Analysis of various models of the short story. Not open normally to students who have had ENG 214. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 330. DEVELOPMENT OF DRAMA: Study of the historical development of the drama from its beginnings to the nineteenth century. Analysis of plays from each significant period. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 331. STUDIES IN FILM: Analysis of selected films to show developments in film technique or criticism. May be repeated as topics change. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 333. IMAGES OF WOMEN IN LITERATURE: Examination of significant literary works that portray traditional images of women. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 335. MODERN BLACK LITERATURE: Study of selected twentieth-century black writers. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 337. STUDIES IN FOLKLORE: Selected studies in American and/or world folklore. May be repeated as topics change. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 339. AMERICAN INDIAN LITERATURE: Survey of American Indian oral narrative and literature. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 348. MODERN IRISH LITERATURE: A consideration principally of the Irish literary revival of the late nineteenth and early twentieth centuries with appropriate background material. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

*ENG 350. EUROPEAN LITERATURE OF ANTIQUITY: Study of significant works from the Old Testament and Greek, Roman, English, Irish, and/or Scandinavian writers. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

*ENG 351. EUROPEAN LITERATURE OF THE MIDDLE AGES: Study of selected literary masterpieces of Western civilization in the Middle Ages. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

*ENG 353. LITERATURE OF THE RENAISSANCE: Study of selected literary masterpieces from England and the Continent that illustrate the culture and ideas of the Renaissance. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

*ENG 354. LITERATURE OF THE ENLIGHTENMENT: Study of selected English and European literature from the Age of Reason. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

*ENG 355. LITERATURE OF THE ROMANTIC AGE: Study of the Romantic Revolution as illustrated in representative writings of English and European authors. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

*ENG 356. EUROPEAN LITERATURE OF THE NINETEENTH CENTURY: Study of representative masterpieces from the literature of England and the Continent during the nineteenth century. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

*ENG 357. EUROPEAN LITERATURE OF THE EARLY TWENTIETH CENTURY: Study of significant English and European literature that illustrates the ideas and culture of the early modern period. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

*ENG 358. CONTEMPORARY LITERATURE OF EUROPE: Study of selected Western European literature that illustrates the ideas and culture of the present age. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

*ENG 362. SHAKESPEARE: Study of selected plays and poems of Shakespeare. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 362L. SHAKESPEARE PERFORMANCE LABORATORY: Study of Shakespearean performances through films, video tapes, and recordings. Three hours a week. Students in 362L must have already taken or be registered for ENG 362 or an equivalent Shakespeare course. *1 sem. hr.*

ENG 368. THEME AND IDEA IN LITERATURE: Selected texts illustrating a universal theme or a consistent idea to serve as a base for developing critical and analytical insights and writing skills. Offered in seminar format. Prerequisite: ENG 102 or equivalent. *2 sem. hrs.*

ENG 370. REPORT WRITING: Analysis of and practice in both basic and complex written reports, including the long formal report. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 372. APPLIED WRITTEN COMMUNICATIONS: Analysis of and practice in written communications appropriate to business and industrial organizations, including forms of correspondence and a job-application project but excluding formal reports. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 376. TOPICS IN WRITING: Analysis of and practice in specific forms of writing. May be repeated as forms change. Prerequisite: ENG 102 or equivalent. *1-3 sem. hrs.*

ENG 378. PROFESSIONAL AND TECHNICAL WRITING: Practice in developing writing skills needed in business, government, and industry. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 380. STUDIES IN LITERATURE: Study of special topics or themes in literature. May be repeated as topics change. Prerequiiste: ENG 102 or equivalent. *1-6 sem. hrs.*

ENG 384. DIRECTED READINGS: A program of readings and reports in literature and the humanities. May be repeated with permission. Prerequisite: ENG 102 or equivalent. *3 sem. hrs.*

ENG 395. JUNIOR HONORS TUTORIAL: Independent directed study on special topics for selected students. May be repeated as topic or instructor changes. Permission required. *3 sem. hrs.*

ENG 405. CHAUCER: Study of Chaucer's life, world, language, and literary achievement, concentrating on *The Canterbury Tales* (in Middle English). Prerequisite: A 200- or 300-level English course. *3 sem. hrs.*

ENG 407. MEDIEVAL ENGLISH LITERATURE: Study of the dominant types in the literature of England from the beginning to 1500. Prerequisite: A 200- or 300-level English course. *3 sem. hrs.*

ENG 410. EARLY RENAISSANCE LITERATURE: Survey of the literature of the sixteenth century from Thomas More to Sidney and Spenser. Prerequisite: A 200- or 300-level English course. *3 sem. hrs.*

ENG 414. LATER RENAISSANCE LITERATURE: Survey of the literature of the early seventeenth century from Bacon, Jonson, and Donne to Marvell, exclusive of Milton. Prerequisite: A 200- or 300-level English course. *3 sem. hrs.*

ENG 431. MILTON: Study of the major and minor poems and of selected prose of Milton. Prerequisite: A 200- or 300-level English course. *3 sem. hrs.*

ENG 433. STUDIES IN NEO-CLASSICAL LITERATURE: Study of English literature from Dryden to Johnson. May be repeated as topics change. Prerequisite: A 200- or 300-level English course. *3 sem. hrs.*

ENG 438. ENGLISH ROMANTICISM: Study of the major poets and critics of the Romantic Age. Prerequisite: A 200- or 300-level English course. *3 sem. hrs.*

ENG 444. STUDIES IN NINETEENTH-CENTURY ENGLISH LITERATURE: Study of English literature in the nineteenth century. May be repeated as topics change. Prerequisite: A 200- or 300-level English course. *3 sem. hrs.*

ENG 448. TWENTIETH-CENTURY BRITISH LITERATURE: Study of significant developments in modern British literature. Prerequisite: A 200- or 300-level English course. *3 sem. hrs.*

ENG 451. AMERICAN ROMANTICISM: Study of significant developments in American literature of the mid-nineteenth century. Prerequisite: A 200- or 300-level English course. *3 sem. hrs.*

ENG 453. AMERICAN REALISM AND NATURALISM: Study of representative writers from the post-Civil War period in American literature. Prerequisite: A 200- or 300-level English course. *3 sem. hrs.*

ENG 455. TWENTIETH-CENTURY AMERICAN LITERATURE: Study of significant developments in American literature of the twentieth century. Prerequisite: A 200- or 300-level English course. *3 sem. hrs.*

ENG 468. INTRODUCTION TO LINGUISTICS: Introduction to the basic concepts and procedures of general linguistics, including language description, history, variation, theory, and acquisition. Prerequisite: A 200- or 300-level English course. *3 sem. hrs.*

ENG 470. HISTORY OF ENGLISH: Study of stages in the development of the English language and of influences shaping its development from the beginning to the present. Prerequisite: A 200- or 300-level English course. *3 sem. hrs.*

ENG 472. THE STRUCTURE OF ENGLISH: Study of the grammatical structure of modern English from traditional and modern linguistic points of view. Prerequisite: A 200- or 300-level English course. *3 sem. hrs.*

ENG 474. ARGUMENTATION: Studies and practice in the patterns of argumentative writing. Recommended for the pre-professional student. Prerequisite: ENG 272, 316, 370, or permission of instructor. *3 sem. hrs.*

ENG 480. INDEPENDENT STUDY: Individual investigations of special topics under faculty direction. May be repeated under special circumstances. Prerequisites: Permission and at least fifteen semester hours of English. *1-6 sem. hrs.*

ENG 482. MODERN POETRY: Concentrated, advanced study in the development of modern poetry, both English and American. Prerequisite: A 200- or 300-level English course. *3 sem. hrs.*

ENG 485. INTERNSHIP IN WRITING: Application of writing skills to specific projects of an approved organization. Practical and professional experience offered to juniors and seniors (particularly English majors and minors) as a supplement to the writing curriculum. Prerequisite: Permission of supervising instructor. May be repeated up to six semester hours. *1-6 sem. hrs.*

ENG 490. SEMINAR: Concentration on one literary figure, genre, or period for research and analysis. May be repeated as topics change. Consult departmental booklet for specific prerequisites for each section. Permission required. *3 sem. hrs.*

ENG 495. SENIOR HONORS TUTORIAL: Independent directed study on special topics for selected students. May be repeated as topic or instructor changes. Permission required. *3 sem. hrs.*

*General education course. See Chapter V.

FAMILY DEVELOPMENT (FAD)

The interdisciplinary minor in family development increases understanding of the meaning and dynamics of marriage and parenthood in contemporary society. It examines the family as a major institution affecting society and surveys the individual, social, and economic problems found within families. This background contributes to preparation for careers in areas such as social work, education, communication, home economics, and religious work.

The minor in family development is earned by taking 16 semester hours of coursework, at least 12 of which must be at the 300-400 level and all of which must be outside one's major discipline. These must be distributed as follows:

	Semester Hours
Basic theory course in family development (Choose one.)	3
HEC 318 Family Living	
SOC 331 Marriage and the Family	
The child (Choose one.)	3
HEC 325 Child Development	
PSY 251 Human Growth and Development	
PSY 351 Child Psychology	
Marriage and family (Choose one.)	3
COM 410 Family Communication	
PHL 318 Family Ethics	
REL 365 Christian Marriage	
ASI 448 Seminar in Family Development (required)	1
Electives (Choose two.)	6
BIO 390 Physiology of Sex and Fertility Regulation	
EDT 360 Children's Literature	
HEC 306 Family Management	
HEC 329 Child Development Practicum	
PSY 355 Psychology of Exceptional Children	
PSY 452 Cognitive Development in Children	
PSY 457 Television and Its Effects on Children	
PSY 462 Human Sexual Behavior	
REL 362 Christian Family Values and Television	
REL 466 Theology of Sexuality	
SWK 339 Child Abuse	
SWK 422 Parenting: Social Welfare Role	
SWK 443 Death, Dying, and Suicide	
SOC 322 Sex Roles and Society	
SOC 323 Juvenile Delinquency	
SOC 335 Social Implications of Aging	

No more than 6 semester hours from any one department may be applied to the minor in family development. Courses taken for this minor may be applied to other minors and to breadth and general education requirements. Appropriate courses may be substituted with permission from the office of the dean of the College of Arts and Sciences and the director of the Center for the Study of Family Development. Students wishing to be recorded as minoring in family development should notify their chairpersons, their deans, and the director of the Center for the Study of Family Development.

FAMILY DEVELOPMENT COMMITTEE

Patricia Voydanoff, *Director, Center for the Study of Family Development*
Allik (Psychology), DeLuca (Home Economics), Herbenick (Philosophy), L. Majka (Sociology), T. Martin (Religious Studies), Moore (Social Work), Wong (College of Arts and Sciences)

FINE ARTS (ART)

The Fine Arts Division of the Performing and Visual Arts Department offers five degree programs:

Bachelor of Arts with a Major in Fine Arts (A6)

Bachelor of Arts with a Major in Interior Design (A6A)

Bachelor of Fine Arts with a Major in Studio Art (A7)

Bachelor of Fine Arts with a Major in Commercial Design (A7A)

Bachelor of Fine Arts with Teacher Certification (A7B)

Each applicant to a program of the Fine Arts Division is required to submit a portfolio of acceptable quality for specific program placement. Specific information on portfolio entrance requirements and submission dates for both entering and transfer students should be requested from the Fine Arts Division office, Rike Center. Applicants without portfolios will be admitted on a probationary basis and placed in a one- to two-semester introductory program.

A faculty review of each degree candidate is conducted during the second year of the candidate's program. All senior Bachelor of Fine Arts program candidates must present portfolios for faculty evaluation before graduation.

Fees are noted in course descriptions if required. These are variable. Information on current fees is obtainable in the Fine Arts Division office.

A minor in fine arts is a 21-semester-hour program requiring the following:

1. Permission of the head of the Fine Arts Division, who assigns an advisor.

2. ART 104 Introductory Drawing ..... 3 sem. hrs.
   ART 112 Principles of Design ..... 3 sem. hrs.
   ART 181 Art Appreciation ..... 3 sem. hrs.

3. Twelve additional semester hours in any combination selected from the Fine Arts Division offerings. These may not include commercial design courses.

A minor in commercial design is a 24- or 25-semester hour program with the following requirements:

1. Permission of the head of the Fine Arts Division, who assigns an advisor.

2. ART 103-104 Introductory Drawing ..... 5 sem. hrs.
   ART 111-112 Principles of Design ..... 5 sem. hrs.
   ART 216 Design and Color ..... 3 sem. hrs.
   ART 345 Typography ..... 3 sem. hrs.
   ART 349 Production for Commercial Artists ..... 3 sem. hrs.
   ART 411-412 Commercial Design I and II ..... 6 sem. hrs.

3. The following courses must be taken in this sequence: 111, 103, 112, 216, 345, 411, 415. ART 104 may be taken at the same time as 112. ART 349 may be taken at the same time as 411. Students who have had two to four years of high school or other formal art training may test out of ART 111 and 103 by submitting portfolios as for entering majors. On testing out, the student must replace ART 111 and 103 with ART 415, Advanced Commercial Design, later in the program.

PROGRAM—A6: BACHELOR OF ARTS WITH A MAJOR IN FINE ARTS (ART)[1]

Dept.	*No.*	*Course*	*Semester Hours* 1st Term	2nd Term
		Freshman Year		
ART	100	Freshman Seminar	0	
ART	104	Introductory Drawing	3	
ART	112	Principles of Design	3	
ART	183-184	Visual Fundamentals I and II	3	3
ART	216	Design and Color		3
ENG	101-102	College Composition I and II	3	3
SPE	101	Fundamentals of Effective Speaking		3
—	—	General education and breadth requirements	3	3
			15	15
		Sophomore Year		
ART	207	Figure Drawing	3	
ART	226	Introductory Painting	3	
ART	—	Art history elective		3
PHO	101	Basic Photography		3
—	—	General education and breadth requirements	9	9
			15	15
		Junior Year		
ART	231	Sculpture		3
ART	253	Printmaking I	3	
ART	362 or 364	Copper Enameling or Jewelry Construction	3	
ART	—	Art elective		3
—	—	General education and breadth requirements	10	9
			16	15
		Senior Year		
ART	240	Introductory Ceramics	3	
ART	—	Art elective		2
MTH	—	Mathematics requirement		3
—	—	General education and breadth requirements	12	9
			15	14

	Semester Hours
Communication skills	3-9
Major Program—Required courses 36	
Art history elective 3	
ART electives 5	
Total in ART	44
Breadth requirements—Natural science 7	
Mathematics 3	
Social and behavioral science 12	
Humanities 18	
Philosophy and/or religious studies 12	
Total breadth requirement	52
General education[2] and academic electives to total at least	120

[1]See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

[2]Courses taken as part of the general education requirement may also fulfill the breadth requirement. Check with program advisor.

PROGRAM—A6A: BACHELOR OF ARTS WITH A MAJOR IN INTERIOR DESIGN (IDE)[1]

Dept.	*No.*	*Course*	*Semester Hours* 1st Term	2nd Term
		Freshman Year		
ART	100	Freshman Seminar	0	
ART	104	Introductory Drawing	3	
ART	112	Principles of Design	3	
ART	183-184	Visual Fundamentals I and II	3	3
ART	216	Design and Color		3
ENG	101-102	College Composition I and II	3	3
SPE	101	Fundamentals of Effective Speaking		3
—	—	General education and breadth requirements	3	3
			15	15
		Sophomore Year		
ART	231	Sculpture		3
ART	297	Marker Rendering	2	
ART	311	Design III	2	
HEC	214	Textiles	3	
PHO	101	Basic Photography		3
—	—	General education and breadth requirements	9	9
			16	15
		Junior Year		
ART	307	Drawing for Commercial Artists		2
HEC	320	Family Housing	2	
HEC	330, 340	Interior Design I and II	3	3
—	—	General education and breadth requirements	10	9
			15	14
		Senior Year		
HEC	350	Interior Design III	3	
HEC	430	Issues in Interior Design		2
MTH	—	Mathematics requirement	3	
—	—	General education and breadth requirements	9	13
			15	15

		Semester Hours
Communication skills		3-9
Major Program—ART courses	24	
PHO course	3	
HEC courses	16	
Total major program		43
Breadth requirements—Natural science	7	
Mathematics	3	
Social and behavioral science	12	
Humanities	18	
Philosophy and/or religious studies	12	
Total breadth requirement		52
General education[2] and academic electives to total at least		120

[1]See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

[2]Courses taken as part of the general education requirement may also fulfill the breadth requirement. Check with program advisor.

PROGRAM—A7: BACHELOR OF FINE ARTS WITH A MAJOR IN STUDIO ART (STA)

Dept.	*No.*	*Course*	*Semester Hours* 1st Term	2nd Term
		Freshman Year		
ART	100	Freshman Seminar	0	
ART	104	Introductory Drawing	3	
ART	112	Principles of Design	3	
ART	183-184	Visual Fundamentals I and II	3	3
ART	206	Anatomical Drawing		3
ART	216	Design and Color		3
ART	226	Introductory Painting		3
ENG	101-102	College Composition I and II	3	3
PHO	101	Basic Photography		3
SPE	101	Fundamentals of Effective Speaking	3	
			15	18
		Sophomore Year		
ART	207	Figure Drawing	3	
ART	227	Introductory Painting	3	
ART	231	Sculpture		3
ART	253	Printmaking I	3	
ART	—	Studio electives		6
—	—	General education and breadth requirements	6	6
			15	15
		Junior Year		
ART	232	Sculpture	3	
ART	316	Life Studies		1
ART	—	Studio electives	6	6
MKT	—	Approved marketing courses	3	3
MTH	—	Mathematics	3	
—	—	General education and breadth requirements	3	6
			18	16
		Senior Year		
ART	495-496	Graduation Portfolio	1	1
ART	—	Art history	3	
ART	—	Art electives	6	6
—	—	General education and breadth requirements	6	9
			16	16

	Semester Hours
Communication skills	3-9
Philosophy and/or religious studies	12
Breadth requirement[1]	12
Major Program—Required courses 45	
ART electives 30	
Total in ART	75
General education requirement[2]	30
Total for the degree	129

[1]Breadth requirement: 6 sem. hrs. selected from psychology, sociology, anthropology, political science, mathematics, natural sciences, economics, marketing, management, social work; 6 sem. hrs. selected from American studies, communication, English, history, languages, philosophy, religious studies, or performing and visual

arts (excluding fine arts and photography). For specific courses consult head of the Fine Arts Division.

[2]See Chapter V, General Education Requirements. Courses taken as part of the general education requirement may also fulfill the breadth requirement. Check with program advisor.

PROGRAM—A7A: BACHELOR OF FINE ARTS WITH A MAJOR IN COMMERCIAL DESIGN (CDE)

Dept.	*No.*	*Course*	*Semester Hours* 1st Term	2nd Term
		Freshman Year		
ART	100	Freshman Seminar	0	
ART	104	Introductory Drawing	3	
ART	112	Principles of Design	3	
ART	183-184	Visual Fundamentals I and II	3	3
ART	206	Anatomical Drawing		3
ART	216	Design and Color		3
ART	285	Technical Graphics		2
PHO	101	Basic Photography		3
ENG	101-102	College Composition I and II	3	3
SPE	101	Fundamentals of Effective Speaking	3	
			15	17
		Sophomore Year		
ART	207	Figure Drawing	3	
ART	226	Introductory Painting	3	
ART	253-254	Printmaking I and II	3	3
ART	297	Marker Rendering		2
ART	298	Studio Skills		3
ART	311-312	Design III and IV	2	3
ART	345	Typography		3
PHO	201	Intermediate Photography	3	
—	—	General education and breadth requirements	3	3
			17	17
		Junior Year		
ART	307	Drawing for Commercial Artists	2	
ART	316	Life Studies		1
ART	318	Three-Dimensional Design, Commercial		3
ART	344	Designing with Type and Symbols	3	
ART	349	Production for the Commercial Artist	3	
ART	411	Commercial Design I		3
ART	—	Art elective	3	
—	—	General education and breadth requirements	6	10
			17	17
		Senior Year		
ART	412	Commercial Design II	3	
ART	415	Advanced Commercial Design		3
ART	498-499	Graduation Portfolio	1	1
ART	—	Art electives	3	3
MTH	—	Mathematics	3	
—	—	General education and breadth requirements	6	9
			16	16

Design Illustration

For a concentration in design illustration, commercial design majors may replace ART 345, 318, 344, 411, 412, 415 with the following course sequence:

ART 227 Introductory Painting II .....3 sem. hrs.

ART 317	Airbrush	3 sem. hrs.
ART 325	Figure Painting	3 sem. hrs.
ART 397-398	Design Illustration I and II	6 sem. hrs.
ART 303	Advanced Drawing	3 sem. hrs.

	Semester Hours
Communication skills	3-9
Philosophy and/or religious studies	12
Breadth requirement[1]	24
Major Program—Required courses 74	
ART electives 9	
Total in ART	83
General education requirement[2]	30
Total for the degree	132

[1]Breadth Requirement: Two units of 6 sem. hrs. each selected from economics, management, marketing, mathematics, political science, psychology, natural sciences, social work, sociology, anthropology. Two units of 6 sem. hrs. each selected from American studies, communication, English, history, languages, philosophy, religious studies, or performing and visual arts (excluding fine arts and photography). At least 6 sem. hrs. must be taken outside the Performing and Visual Arts Department.

[2]See Chapter V, General Education Requirements. Courses taken as part of the general education requirement may also fulfill the breadth requirement. Check with program advisor.

PROGRAM—A7B: BACHELOR OF FINE ARTS WITH TEACHER CERTIFICATION (E-11) (FAE)

Note: Students seeking certification in the B.F.A. program must apply in the sophomore year with 40 semester hours completed and with a 2.9 cumulative point average. See also EDT.

Dept.	*No.*	*Course*	*Semester Hours* 1st Term	2nd Term
		Freshman Year		
ART	100	Freshman Seminar	0	
ART	104	Introductory Drawing	3	
ART	112	Principles of Design	3	
ART	183-184	Visual Fundamentals I and II	3	3
ART	206	Anatomical Drawing		3
ART	216	Design and Color		3
ENG	101-102	College Composition I and II	3	3
SPE	101	Fundamentals of Effective Speaking	3	
—	—	General education or breadth requirement		3
			15	15
		Sophomore Year		
ART	207	Figure Drawing	3	
ART	226	Introductory Painting	3	
ART	231	Sculpture	3	
ART	240	Introductory Ceramics	3	
ART	254	Printmaking II		3
ART	—	Art elective		2
PHO	101	Basic Photography		3
EDT	207	Child and Adolescent in Education	3	
EDT	208	Teaching and Learning		3
EDT	318	Human Relations in Education	2	
MTH	—	Mathematics requirement		3
PHL	320	Philosophy of Art		3
			17	17

		Junior Year		
ART	362	Copper Enameling or		
ART	366	Jewelry Casting or		
ART	364	Jewelry Construction		3
ART	292	Lettering and Calligraphy or		
ART	344	Designing with Type and Symbols	3	
ART	341	Weaving		2
ART	—	Art history elective	3	
ART	—	Art electives	2	2
EDT	351	Secondary School, Self, and Society	3	
—	—	General education and breadth requirements	6	10
			17	17
		Senior Year		
ART	483	Creative Art Teaching	4	
ART	495-496	Graduation Portfolio	1	1
ART	—	Art electives	6	
EDT	419	Philosophy of Education		3
EDT	421	Student Teaching		12
EDT	469	Reading in the Content Areas	2	
—	—	General education or breadth requirement	3	
			16	16

	Semester hours
Communication skills	3-9
Philosophy and/or religious studies	12
Major Program—Field experiences are arranged by the University in the following courses: EDT 208, EDT 318, EDT 351, EDT 469, ART 483. Required art courses, except ART 496, must be taken before placement in student teaching.	
Required art and photography courses 53	
Art electives 12	
Total in ART	65
Education requirements	25
Breadth requirement[1]	24
General education requirement[2]	30
Total for the degree	131

[1]Breadth Requirement: Two units of 6 sem. hrs. each selected from psychology, sociology, anthropology, political science, mathematics, natural sciences, economics, marketing, management, education, home economics. Two units of 6 sem. hrs. each selected from languages, English, history, communication, philosophy, religious studies. (If English, philosophy, religious studies, or communication is chosen, then the requirement excludes the semester hours already required in general education.)

[2]See Chapter V, General Education Requirements. Courses taken as part of the general education requirement may also fulfill the breadth requirement. Check with program advisor.

Portfolio required before program placement for regular as well as transfer students. Portfolio required for graduation.

Second-year candidates for B.F.A. participate in a faculty review.

All education courses are to be taken in sequence except EDT 318, 455, and 419.

Philosophy of Education, EDT 419, is accepted as part of the philosophy and/or religious studies requirement in general education.

National Teachers Examination is required of all students.

Students seeking a B.F.A. with teacher certification are encouraged to attend summer school between the junior and senior years.

FACULTY

Patrick S. Gilvary, *Chairperson, Department of Performing and Visual Arts*
Louis Weber, *Head of Fine Arts Division*
Associate Professors: Plogman, Weber
Assistant Professors: Barrish, Fiehler, Hitt, Myers, Richardson, Zahner
Part-time Instructors: Brown, Cope, Jones, Mushovic, Norcia, Rudegeair, Tuss

COURSES OF INSTRUCTION

ART 101-102. FUNDAMENTALS AND MATERIALS OF ART: Course to acquaint beginners with the principles and concepts of art and with the various kinds of materials and techniques used in artistic expression. Open to all students. Prerequisite for ART 102 is ART 101 or permission. Studio fee. *2 sem. hrs. each*

ART 103. INTRODUCTORY DRAWING: Introduction of basic visual concepts, various drawing media, and approaches to experimental technique. Emphasis on perspective, perceptual awareness, and expressive freedom. Open to all students. *2 sem. hrs.*

ART 104. INTRODUCTORY DRAWING: Introduction of basic visual concepts, various drawing media, and approaches to experimental technique. Emphasis on perspective, perceptual awareness, and expressive freedom. Includes an introduction to figure drawing. Art majors only. Model fee. *3 sem. hrs.*

ART 111. PRINCIPLES OF DESIGN: Study of the underlying elements and principles of design as they are applied to surface pattern. Color theories and their use in creative design. Open to all students. *2 sem. hrs.*

ART 112. PRINCIPLES OF DESIGN: Study of the underlying elements and principles of design as they are applied to surface pattern. Color theories and their use in creative design. *3 sem. hrs.*

*ART 181. ART APPRECIATION: Course to develop a greater capacity to enjoy as well as understand contemporary art expression. Emphasis on understanding the creative process and investigating the artist's point of view and relationship to audience. Open to all students except art majors. One 3-hour session each week. *3 sem. hrs.*

*ART 183. VISUAL FUNDAMENTALS I: Introductory course to present concepts in the visual arts through an integration of fundamentals in art theory, practice, and history. Not open to students who have taken ART 181. *3 sem. hrs.*

*ART 184. VISUAL FUNDAMENTALS II: Continuation of ART 183 with emphasis on the historical evolution of styles and their relationship to twentieth-century art. Not open to students who have taken ART 181. *3 sem. hrs.*

ART 206. ANATOMICAL DRAWING: Studies from the nude model, skeleton, anatomy diagrams, and drawings of the masters. Emphasis on skeletal-muscular structure, external contour, and "norms" for proportion. Prerequisite: ART 104. Model fee. *3 sem. hrs.*

ART 207. FIGURE DRAWING: The integration of previous studies of visual concepts, anatomy, and expressive freedom into a personally distinctive figure-drawing approach. Prerequisites: ART 104, 206, and/or permission of instructor. Model fee. *3 sem. hrs.*

ART 216. DESIGN AND COLOR: The study of color based principally on Alber's theory of color and its use in expressing and integrating various designs. Prerequisite: ART 112 or permission of instructor. *3 sem. hrs.*

ART 226-227. INTRODUCTORY PAINTING: Painting in oil, acrylics, and watercolor: still life, landscape, figure, and abstraction; emphasis on composition and techniques; use of imaginative subject matter. Prerequisite for ART 227 is ART 226 or permission. *3 sem. hrs. each*

ART 228-229. WATERCOLOR: Basic principles and techniques of transparent watercolors. Emphasis on composition, value, and color sketching as preparatory steps in painting. In the second course, varying expressions and interpretations of subject material are encouraged. Prerequisites: ART 103 or 104, 111 or 112, 226-227. Model fee. *3 sem. hrs. each*

ART 231-232. SCULPTURE: Consideration of forms as a means of developing an understanding of mass, shape, and control of medium. Use of wide range of materials with emphasis on the integration of their characteristics with the expression. Prerequisite for ART 232 is ART 231 or permission. Studio fee. *3 sem. hrs. each*

ART 240. INTRODUCTORY CERAMICS, HAND BUILDING: Introduction to basic methods of working in clay by way of coil and slab. Emphasis on originality and proper methods. Studio fee. *3 sem. hrs.*

ART 241. INTERMEDIATE CERAMICS, WHEEL THROWING: Introduction to basic methods of working clay by way of the wheel. Emphasis on originality and proper methods. Prerequisite: ART 240. Studio fee. *3 sem. hrs.*

ART 253. PRINTMAKING I: Introduction and practice in two basic printmaking techniques, the relief and the intaglio print. Studio fee. *3 sem. hrs.*

ART 254. PRINTMAKING II: Introduction to the basic principles of lithography and silkscreen printing. Studio fee. *3 sem. hrs.*

ART 273. SURVEY OF ART I: Survey of Western art and significant historical and cultural influences from prehistory through the medieval and Gothic periods. Open to all University students. *3 sem. hrs.*

ART 274. SURVEY OF ART II: Continuation of ART 273, beginning with the Renaissance and continuing through the Baroque and Rococo periods. Open to all University students. *3 sem. hrs.*

ART 275. SURVEY OF ART III: Survey of art history from transformations in late 18th-century art through 20th-century contemporary art. Open to all University students. *3 sem. hrs.*

ART 281. CREATIVE FIBER DESIGN: Investigation of soft sculpture, macrame, stitchery, and textile printing. Experiences with fiber media and processes oriented around perception and awareness of fiber properties. Studio fee. *2 sem. hrs.*

ART 285. TECHNICAL GRAPHICS: Introduction to technical drawing for the graphic communication student. Familiarization with technical drawing instruments and their use. Techniques studied include preparation of orthographic views, perspective drawing, various types of general business graphics. Studio fee. *2 sem. hrs.*

ART 292. CALLIGRAPHY: Principles of lettering; study of vertical and slant script styles. Applications in finished pieces of work. *3 sem. hrs.*

ART 297. MARKER RENDERING: Drill and practice in the marker medium. Emphasis on technique and control. Prerequisite: ART 104. *2 sem. hrs.*

ART 298. STUDIO SKILLS: Development of various fundamental art skills required by the commercial art studio, advertising agency, and printer. The tools and terminology of the trade. Emphasis on preparing camera-ready art—keylines and paste-ups (mechanicals). Prerequisite: ART 216. Studio fee. *3 sem. hrs.*

ART 303. ADVANCED DRAWING: Observational and expressive drawing. Use of accumulated knowledge from previous drawing experiences to develop individual creativity and original style. Prerequisites: ART 206-207 or permission. Model fee. *3 sem. hrs.*

ART 307. DRAWING FOR COMMERCIAL ARTISTS: Emphasis on the aspects of drawing needed by commercial artists: one-, two-, and three-point perspective, spatial drawing, and the "ideal" human figure. Prerequisite: ART 104. Studio fee. *2 sem. hrs.*

ART 311. DESIGN III: A continuing exploration of color including Itten and Munsell, color psychology, color perception in the visual arts. Prerequisite: ART 216. Studio fee. *2 sem. hrs.*

ART 312. DESIGN IV: Perception and illusion in the visual arts, with studies of modern graphics in both historical and stylistic contexts. Prerequisite: ART 216. Studio fee. *3 sem. hrs.*

ART 316. LIFE STUDIES: Studies in drawing from the live model, both nude and clothed, for practice and refinement of technique. Variety of media permitted. Prerequisites: ART 104, junior or senior status. Repeatable up to 4 sem. hrs. Model fee. *1 sem. hr.*

ART 317. AIRBRUSH TECHNIQUE: Fundamental course in the principles of airbrush in illustration. Prerequisites: ART 112, 226, 216. Studio fee. *3 sem. hrs.*

ART 318. THREE-DIMENSIONAL DESIGN COMMERCIAL: Investigation of materials, processes, and three-dimensional aesthetic principles of advantage to the commercial designer. Prerequisites: ART 112, 216. Studio fee. *3 sem. hrs.*

ART 319. STUDIO: A faculty-supervised time block that allows students to pursue work in a variety of media as designated in the course composite by area (painting, drawing, etc.) and instructor. Prerequisites: 6 sem. hrs. of course work in the area selected or permission of the instructor. Repeatable up to 18 sem. hrs. Studio fee. *3 sem. hrs.*

ART 325. FIGURE PAINTING: Fundamentals and practice of painting from the model. Both representational and abstract approaches; stress on technical quality and personal expression. Prerequisites: ART 103 or 104, or permission of instructor. Model fee. *3 sem. hrs.*

ART 341. WEAVING: Exploration of fabrics with emphasis on the functional aspects of handweaving, including use of the loom. Fiber construction, basketry, stitchery, hooking, batik, and macrame. Prerequisites: ART 111 or 112. Studio fee. *2 sem. hrs.*

ART 343. RAKU: A 400-year-old Japanese ceramic technique adapted for the contemporary potter. Study includes kiln building, glaze formulation, handbuilding techniques. Studio fee. *3 sem. hrs.*

ART 344. DESIGNING WITH TYPE AND SYMBOLS: The visual as opposed to the technical aspects of type: letterforms as creative design tools in pattern and texture, esthetical and psychological effects. Prerequisite: ART 216. Studio fee. *3 sem. hrs.*

ART 345. TYPOGRAPHY: Introduction to typography for those entering the commercial design field. Type styles, type measurements, preparing copy for printing. Studio fee. *3 sem. hrs.*

ART 349. PRODUCTION FOR THE COMMERCIAL ARTIST: Survey of the graphic arts field: its equipment, its processes, and the preparation of art for reproduction purposes—process photography, photomechanical procedures, color separation, and printing methods and machines. Hard line art and advanced problems in camera-ready art. Prerequisites: ART 298, 345. Studio fee. *3 sem. hrs.*

ART 355-356. SILK SCREEN-SERIGRAPHY: Basic principles and techniques of the silk screen process; all operations of screen printing including stencil and resist techniques, selecting and preparing the color material, printing and displaying the finished print. Prerequisite: ART 254. Studio fee. *3 sem. hrs. each*

ART 357. LITHOGRAPHY: Investigation of lithographic printing techniques, stone lithography, metal plate lithography, multi-color prints, mastery of color registration methods, and use of various lithographic drawing materials and techniques. Prerequisite: ART 254 or permission of the instructor. Studio fee. *3 sem. hrs.*

ART 358. INTAGLIO PRINTING: Advanced work in intaglio printmaking including etching, drypoint, aquatint, color printing, and the use of photographic images. Prerequisite: ART 253. Studio fee. *3 sem. hrs.*

ART 362. COPPER ENAMELING: Basic principles and techniques of enameling on copper, in stencil, graffito, wet-pack painting, cloisonne, and champleve. Design and execution of original pieces in each of these processes. Prerequisite: ART 112. Studio fee. *3 sem. hrs.*

ART 364. JEWELRY CONSTRUCTION: Basic principles of construction with special emphasis on soldering techniques, use of tools, and the design of the piece of work. Prerequisite: ART 112. Studio fee. *3 sem. hrs.*

ART 366. JEWELRY CASTING: The complete jewelry-casting process: designing of original pieces, making the wax models, spruing, investing, burning out, casting, and finishing. Emphasis at the beginning of the course on learning the process and correct procedures; later emphasis on the aesthetic and sculptural nature of the piece of work. Studio fee. *3 sem. hrs.*

ART 367. STAINED GLASS: Introduction into the techniques of cutting glass, use of tools, copper foil, and leaded came. Emphasis in the first half of the course on technical skills and good design in building small windows. In the latter half of the course more advanced work in three-dimension object building. Studio fee. *3 sem. hrs.*

ART 376. AMERICAN PAINTING: Survey of major American artists from the colonial period to World War II, with emphasis on problems of function and patronage. Open to all University students. *3 sem. hrs.*

ART 377. WOMEN ARTISTS: AN HISTORICAL SURVEY: Historical survey of women artists from the Middle Ages to the present with particular emphasis on current revisionist literature and exhibitions. Open to all University students. *3 sem. hrs.*

ART 397-398. DESIGN ILLUSTRATION I and II: Applications, methods, problems in various illustrative styles, media, materials, and techniques for effective visual communication, representation, or interpretation of concepts, products, or narratives for magazines, books, newspapers, and advertising. Prerequisites: ART 216, 227. ART 397 is a prerequisite for ART 398. Studio fee. *3 sem. hrs. each*

ART 411-412. COMMERCIAL DESIGN I and II: Applications, methods, and problems in layout design for magazine advertisements, retail advertising, and collateral materials. Emphasis on creating concepts for effective visual communication and attention-arresting techniques; professional methods and materials. Prerequisite: ART 349. ART 411 is a prerequisite for ART 412. Studio fee. *3 sem. hrs. each*

ART 415. ADVANCED COMMERCIAL DESIGN: The art of identification: creation, psychology, and perception of trade-marks, the anatomy of annual reports, and a survey of company identification and corporate image programs. Design of letterheads, envelopes, charts, graphs, and annual reports. Prerequisite: ART 412. Studio fee. *3 sem. hrs.*

ART 472. ART IN THE TWENTIETH CENTURY: The development of 20th-century art, covering the early cubist movement, abstract expressionism, and various aspects of other major movements to the present. Open to all University students. *3 sem. hrs.*

ART 473. ART IN THE NINETEENTH CENTURY: Study of major artists and movements in European art, beginning with the late 18th century and continuing through the Impressionist and Post-Impressionist movements in the 19th century. Open to all University students. *3 sem. hrs.*

ART 474. CONTEMPORARY TRENDS IN THE VISUAL ARTS: Seminar for senior fine arts majors only, treating only post-1950s trends in painting, sculpture, architecture, new methods and materials in graphics, and theories in current art criticism. Prerequisite: ART 472. *3 sem. hrs.*

ART 483. CREATIVE ART TEACHING IN ELEMENTARY AND SECONDARY SCHOOLS: The philosophy of art education, creative teaching, use and care of tools and equipment, class management, art therapy, curriculum planning, art media; actual teaching experience in children's classes. Art education majors only. Studio fee. *4 sem. hrs.*

ART 483W. ELEMENTARY SCHOOL ART: Workshop to give the regular elementary classroom teacher new and practical ideas on the employment of art materials and techniques in relation to seasonal interests of pupils and to holiday observances. Studio fee. *3 sem. hrs.*

ART 490. SPECIAL PROBLEMS: A course reserved for art students devoted to advanced individual work in the following designated art fields: airbrush, drawing, enameling, graphics, art history, jewelry, lettering and calligraphy, ceramics, design, painting, lithography, sculpture, general fine arts. Approval based on academic standing and instructor-division head permission. Repeatable up to 15 semester hours. Studio fee. *1-5 sem. hrs.*

ART 495-496. GRADUATION PORTFOLIO: Required of all B.F.A. candidates except those in commercial design. The course deals with criteria, schedule, selection of work, presentation, and exhibition in constructing a portfolio. Approval of the portfolio is required for graduation. Grade option 2. *1 sem. hr. each*

ART 498-499. GRADUATION PORTFOLIO IN COMMERCIAL DESIGN: The portfolio is a requirement for a B.F.A. in commercial design. Evaluation and preparation of a portfolio of professional-quality work; resume writing, job interview techniques. Approval of the portfolio is required for graduation. Grade option 2. *1 sem. hr. each*

*General education course. See Chapter V.

GENERAL STUDIES (GEN)

The Bachelor of General Studies program is designed for those students who do not wish to pursue a traditional degree program with a departmental major. It permits great latitude in utilizing University resources for acquiring an education that serves individual needs. Since only the basic University requirements must be met, there are no specific requirements. Students may plan their programs to the best advantage of their particular educational objectives.

BACHELOR OF GENERAL STUDIES PROGRAM (GEN)

Admission requirements for the Bachelor of General Studies are the same as those for any other degree now offered in the College of Arts and Sciences.

Candidacy for the Bachelor of General Studies may be declared in the freshman year but not later than the end of the junior year. Students in good academic standing may transfer from one program to another, provided they meet the requirements of, and can be accommodated by, the programs into which they wish to transfer.

The first-year student is required to seek approval of course elections under the direction of the appropriate official of the College of Arts and Sciences. Thereafter, the student will be required to plan an academic program satisfying requirements for graduation in consultation with the program director, Sister Ellen Murphy. The usual policy on prerequisites remains in effect in this program.

The candidate must complete 120 semester hours with an overall grade point average of 2.0 or better, including

1. University requirements (see Chapter V),
2. a minimum of 54 semester hours of courses at the 300-400 level with a grade point average of 2.0 or better, and
3. not more than 30 semester hours of work from any one academic discipline.

GEOLOGY (GEO)

The following program, leading to the Bachelor of Science with a Major in Geology, is designed to present students with the basic courses in the geological sciences and to enable them to construct specific curricula to suit their particular interests in areas of advanced study.

PROGRAM–S5: BACHELOR OF SCIENCE WITH A MAJOR IN GEOLOGY (GEO)[1]

	Semester Hours
Geology	38
Mathematics 118-119[2]	8
Chemistry 123-124	8
Physics 206-207[3]	6
Science electives[4]	16
Philosophy and/or religious studies	12
Communication skills (ENG 101-102, SPE 101)	3-9
Social and behavioral sciences	6
Humanities	9
General education requirements and academic electives to total at least	120

[1]See General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

[2]May substitute MTH 112-113 with permission of department.

[3]May substitute PHY 201-202 with permission of department.

[4]Choose from courses in chemistry, mathematics, physics, biology, geology, computer science, or (with chairperson's approval) engineering.

Any student wishing to pursue a Bachelor of Arts with a Major in Geology should consult with the chairperson of the department.

A student wishing to choose geology as an area of minor concentration must take 12 semester hours in 300-400 level courses, and any prerequisites.

FACULTY

Charles J. Ritter, *Chairperson*
Distinguished Service Professor: Springer
Professor: Ritter
Assistant Professor: Lohmeyer

COURSES OF INSTRUCTION

GEO 103. PRINCIPLES OF GEOGRAPHY: Analysis of the physical factors of the earth's environment: weather, climate, land forms, oceans. *3 sem. hrs.*

GEO 104. INTRODUCTORY GEOLOGY FIELD COURSE: Fundamental earth science topics with emphasis on direct field experience. One week on campus, 3 weeks in the Rocky Mountains near Denver, Colorado, and one week of travel. For all non-geology and non-biology majors. Corequisites: BIO 104; GEO 104L or BIO 104L. Third term each year. *3 sem. hrs.*

GEO 104L. INTRODUCTORY GEOLOGY FIELD LABORATORY: Course to accompany GEO 104. Third term each year. *1 sem. hr.*

*GEO 109. GENERAL GEOLOGY: Introduction to the earth as a planet, its composition, structure, and evolutionary development; a brief consideration of the life of the past. For the nonscience major. May be taken without laboratory. *3 sem. hrs.*

GEO 109L. GENERAL GEOLOGY LABORATORY: Course to accompany GEO 109. Two hours per week. *1 sem. hr.*

*GEO 115. PHYSICAL GEOLOGY: Introductory course in geologic principles; the composition and structure of the earth, its land forms, and the agencies active in their production. Laboratory optional for nonmajors. *3 sem. hrs.*

GEO 115L. PHYSICAL GEOLOGY LABORATORY: Course to accompany GEO 115. Two hours per week. *1 sem. hr.*

GEO 116. HISTORICAL GEOLOGY: A comprehensive study of earth history as interpreted from the rocks of the crust. Prerequisite: GEO 115. *3 sem. hrs.*

GEO 116L. HISTORICAL GEOLOGY LABORATORY: Course to accompany GEO 116. Two hours per week. *1 sem. hr.*

GEO 201. MINERALOGY: Introduction to the study of minerals, their chemical and physical properties, associations and occurrences. First term, each year. *3 sem. hrs.*

GEO 201L. MINERALOGY LABORATORY: Course to accompany GEO 201. Three hours per week. First term, each year. *1 sem. hr.*

GEO 204. OPTICAL MINERALOGY: Mineral determination through the use of the petrographic microscope employing crushed grains and thin sections. Prerequisite: GEO 201. Second term, each year. *2 sem. hrs.*

GEO 204L. OPTICAL MINERALOGY LABORATORY: Course to accompany GEO 204. Four hours per week. Second term, each year. *2 sem. hrs.*

GEO 208. ENVIRONMENTAL GEOLOGY: Study of the relationship of geologic factors to the problems of water supply, pollution, erosion, land use, and earth resources. Laboratory optional. Third term, each year. *3 sem. hrs.*

GEO 208L. ENVIRONMENTAL GEOLOGY LABORATORY: Third term, each year. *1 sem. hr.*

GEO 218. ENGINEERING GEOLOGY: A comprehensive study of geologic principles applicable to civil engineering practices. Second term, each year. *3 sem. hrs.*

GEO 301. STRUCTURAL GEOLOGY: The origin and development of structural features of the earth's crust; folding, faulting, volcanism, mountain building, and metamorphism. Prerequisites: GEO 115, 116, 201, 204. First term, alternate years. *3 sem. hrs.*

GEO 301L. STRUCTURAL GEOLOGY LABORATORY: Course to accompany GEO 301. Two hours per week. First term, alternate years. *1 sem. hr.*

GEO 302. GLACIAL GEOLOGY: The origin of mountain and continental glaciers; their depositional features and erosive activity; history of glaciation in geologic past with special emphasis on North American Quaternary ice advances. Prerequisites: GEO 115, 116. Second term, alternate years. *3 sem. hrs.*

GEO 302L. GLACIAL GEOLOGY LABORATORY: Course to accompany GEO 302. Two hours per week. Second term, alternate years. *1 sem. hr.*

GEO 303. FIELD GEOLOGY: Six weeks' summer study of structural and age-relationship problems in areas containing abundant crystalline and sedimentary exposures. Prerequisites: GEO 115, 116, 301. Summer. *6 sem. hrs.*

GEO 307. GEOMORPHOLOGY: Detailed study of landforms and the erosional processes that develop them. Prerequisites: GEO 115, 116, 301. Second term, alternate years. *3 sem. hrs.*

GEO 307L. GEOMORPHOLOGY LABORATORY: Course to accompany GEO 307. Two hours per week. Second term, alternate years. *1 sem. hr.*

GEO 310. STRATIGRAPHY: The interpretation of specific lithotypes and the synthesis of the stratigraphic record. Prerequisites: GEO 116, 301. Second term, alternate years. *3 sem. hrs.*

GEO 310L. STRATIGRAPHY LABORATORY: Course to accompany GEO 310. Two hours per week. Second term, alternate years. *1 sem. hr.*

GEO 401. PALEONTOLOGY: A study of animal life of the geologic past as shown by the fossil record. First term, alternate years. *3 sem. hrs.*

GEO 401L. PALEONTOLOGY LABORATORY: Course to accompany GEO 401. Two hours per week. First term, alternate years. *1 sem. hr.*

GEO 403. SEDIMENTATION: Detailed study of sediments: their sources, environments of deposition, and methods of consolidation; sedimentary rock classifications and analyses. Prerequisites: GEO 201, 204, 301. First term, alternate years. *3 sem. hrs.*

GEO 403L. SEDIMENTATION LABORATORY: Course to accompany GEO 403. Two hours per week. First term, alternate years. *1 sem. hr.*

GEO 404. PROBLEMS IN GEOLOGY: A consideration of special problems involving advanced work in the laboratory and library; arranged to meet the needs of individual students. *3 sem. hrs.*

GEO 411. IGNEOUS PETROLOGY: Study of the formation of igneous rocks. Prerequisites: GEO 201, 204, 309. First term, alternate years. *3 sem. hrs.*

GEO 411L. IGNEOUS PETROLOGY LABORATORY: Course to accompany GEO 411. Two hours per week. First term, alternate years. *1 sem. hr.*

GEO 412. INTRODUCTORY GEOCHEMISTRY: Investigation of the chemical nature and development of the earth, its interior, crust, and surface materials. Quantitative chemical and physical chemical studies of formation rock types, ore deposition, and geochronology. Second term, alternate years. *3 sem. hrs.*

GEO 412L. INTRODUCTORY GEOCHEMISTRY LABORATORY: Course to accompany GEO 412. Three hours per week. Second term, alternate years. *1 sem. hr.*

*General education course. See Chapter V.

HISTORY (HST)

The course requirements for history majors are 36 semester hours, distributed as follows:

1. HST 101-102 (6 semester hours);
2. HST 251-252 (6 semester hours);
3. HST 301 (3 semester hours);
4. One HST seminar (3 semester hours)—choose from HST 490, 491, or 492;
5. Six additional courses (18 semester hours), chosen from the HST 300-400 sequences. The department firmly recommends that the student attempt to distribute these fairly equally between American and non-American history.

In addition, each major must take *one* of the following options:

1. Six semester hours in quantification skills (that is, a CPS course and a statistics course such as MTH 207); or
2. Six to eight semester hours of a foreign language.

Each student should also take at least five courses outside the major (15 semester hours) within a selected "area of concentration." (See areas below.)

The course requirements for history minors are 18 semester hours: HST 102, either HST 251 or HST 252, two upper-level courses from the American history field, and two upper-level courses from the non-American history field.

History students are strongly encouraged to participate in the Interdepartmental Summer Study Abroad Program conducted by the College of Arts and Sciences. See Chapter X.

PROGRAM—A8: BACHELOR OF ARTS WITH A MAJOR IN HISTORY (HST)[1]

	Semester Hours
History	36
Natural science	7
Mathematics	3
Social and behavioral science	12
Humanities	18
Philosophy and/or religious studies	12
Communication skills	3-9
Quantification skills or foreign language[2]	6-8
General education courses[2] and academic electives to total at least	120

[1]See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

[2]Where appropriate, this credit may be applied to other requirements. Consult with advisor.

Minors and Areas of Concentration

To further career goals, to develop critical skills, to integrate courses in various disciplines, and to get a sound liberal education, each history major should elect one of the six multi-disciplinary areas of concentration outlined below. Each student is also encouraged to develop a minor. The departmental chairperson counsels all freshman majors. Other majors are assigned to faculty members whose counseling specialties correspond to the students' interests and career goals.

1. General area

Designed especially for the student who wants to double-major or to minor in such areas as journalism or business or who is not yet sure of career goals: Students should take ENG 272 (Expository Writing) and ENG 316 (Advanced Composition). In addition, each student, in consultation with an advisor, should take a block of at least 12 semester hours in an outside area.

2. Pre-Graduate Study in History

Ph.D. programs generally require the candidate to have a reading knowledge of French and German. Therefore, language study is necessary. Another language may sometimes be substituted. Students should consult graduate catalogues for specific requirements. To achieve writing proficiency, students should take ENG 272 (Expository Writing). ENG 316 (Advanced Composition) is also recommended. To further speaking abilities, students should take SPE 311 (Advanced Speaking Techniques). Additional speech courses are recommended. In addition, quantification skills and study in the social sciences are very useful for graduate work. Students interested in graduate study must maintain a high grade point average. They should consult with faculty members to determine the areas where there may be openings for careers in the near future.

3. Pre-Law

Students should take the following courses as part of their 36 required semester hours in history:

HST 322	History of England
HST 424	English Constitutional and Legal History
HST 460-461	U.S. Legal and Constitutional History I and II

In addition, students should select at least five courses (15 semester hours) from among the following:

ACC 207-208	Principles of Accounting, or
ACC 301	Financial Reporting and Administration
COM 440	Law and News Media
CRJ 305	Criminal Law
CRJ 315	Criminal Procedure
CRJ 336	Comparative Criminal Justice Systems
ECO 203	Principles of Microeconomics
ECO 204	Principles of Macroeconomics
ECO 442	Money and Banking (Prerequisites: ECO 203-204)
ENG 272	Expository Writing
ENG 316	Advanced Composition
FIN 301	Business Finance
PHL 201	Practical Logic
PHL 314	Philosophy of Law
POL 201	The American Political System
POL 301	The American Judicial Process
POL 411	Constitutional Law
POL 495	Internship in Law
SOC 326	Law and Society
SOC 327	Criminology
SPE 312	Persuasion

4. International Affairs

The following history courses are especially applicable:

HST 348	United States and Third World Crises
HST 375	Diplomatic History of the United States
HST 470	History of the Cold War

Courses in Europe and the Third World are highly recommended. Students are also urged to take a sufficient number of courses to achieve fluency in at least one modern foreign language.

In addition, students should select at least five courses (15 semester hours) from among the following:

ANT 351	Cultures of the Caribbean
ANT 352	Cultures of Latin America
COM 305	Propaganda Analysis
COM 309	Communication and Conflict Resolution
CRJ 336	Comparative Criminal Justice Systems
ECO 450	Comparative Economic Systems
ECO 461	International Economics
ENG 272	Expository Writing
ENG 316	Advanced Composition
FIN 450	International Business Finance
POL 202	Introduction to Comparative Politics
POL 214	Principles of International Relations
POL 320-326	Comparative Politics (any course)
POL 409	Soviet Foreign Policy
POL 410	Comparative Foreign Policy
REL 201-202	Religions of the World I and II
SOC 337	Political Sociology
SOC 350	National and World Population Trends

5. Historical Administration, Preservation, and Archival Management

Students should take the following courses as part of their 36 required semester hours in history:

HST 391	American Architectural History and Preservation
HST 495	Internship

In addition, students must take at least five of the following:

ACC 207-208	Principles of Accounting, or
ACC 301	Financial Reporting and Administration
ENG 272	Expository Writing
MGT 102	American Business Environment
MGT 305	Principles of Management
MGT 308	Small Business Management
MGT 314	Personnel Management
MKT 421	Advertising
MKT 310	Salesmanship
POL 303	State and Local Government
POL 305	Introduction to Public Administration
POL 360	Urban Politics
POL 413	The American Bureaucracy

6. E-11 Program

Those planning careers in secondary education should consult the Department of History for the requirements for certification. Specific courses in education, the social sciences, the sciences, and the humanities are required in addition to student teaching.

FACULTY

Roberta S. Alexander, *Chairperson*
Professors: Beauregard, Donatelli, Eid, Maras, Mathias, Rhee, Steiner
Associate Professors: Alexander, King, Palermo, Taylor, Vines
Assistant Professors: Bannan, Heitmann, May, Schweikart
Lecturer: Vieson
Adjunct Instructors: Bell, Bennett, Gannon, O'Neil

COURSES OF INSTRUCTION

*HST 101. HISTORY OF WESTERN CIVILIZATION FROM ITS CLASSICAL ROOTS TO THE FRENCH REVOLUTION: Survey of Western civilization beginning with classical civilization and concluding with the Enlightenment. The impact of social forces, institutions, and values on the development of societies. *3 sem. hrs.*

*HST 102. HISTORY OF WESTERN CIVILIZATION SINCE 1789: Survey of European civilization from the French Revolution to the present. The impact of social forces and changing values on the lives of individual people. *3 sem. hrs.*

*HST 251. AMERICAN HISTORY TO 1865: Survey of the development of the American nation from colonial times to 1865; political trends, economic and social foundations of American institutions. *3 sem. hrs.*

*HST 252. AMERICAN HISTORY SINCE 1865: Survey of the development of the nation after the Civil War, stressing social, economic, and political problems. *3 sem. hrs.*

HST 301. RESEARCH SEMINAR: History methods, philosophy, and introductory historiography, the last based on the professor's field of specialization. Required for junior history majors. *3 sem. hrs.*

HST 306. INTELLECTUAL AND CULTURAL HISTORY OF MODERN EUROPE: Close analysis of people, ideas, and principal cultural developments from the Renaissance into the 20th century. *3 sem. hrs.*

HST 313. THE REVOLUTIONARY ERA, 1798-1918: Historical analysis of European nations and peoples emphasizing war and revolutions of the period as well as ideological, scientific, and technological developments. *3 sem. hrs.*

*HST 314. TWENTIETH-CENTURY EUROPE: Study of the two World Wars, the Russian Revolution, Depression, Cold War, Detente, and social and intellectual reactions to contemporary economic and political developments. *3 sem. hrs.*

*HST 322. HISTORY OF ENGLAND: Major forces and trends in the history of England from early medieval times to the present, including their influence on social history and literature. *3 sem. hrs.*

HST 325. HISTORY OF RUSSIA: Development of the Russian state from earliest times to the present, including Kievan society, rise of Muscovy, Imperial Russia, and the Soviet Union. *3 sem. hrs.*

HST 328. HISTORY OF EASTERN EUROPE: Survey of the history of the nations lying between Germany and the Soviet Union, the Baltic and Aegean Seas, stressing medieval and early modern background as a foundation of contemporary history. *3 sem. hrs.*

HST 330. HISTORY OF THE FAR EAST: Brief review of the early historical development of the Far East; study of China and Japan in the 19th and 20th centuries, emphasizing political, religious, cultural, and economic growth. *3 sem. hrs.*

HST 335. HISTORY OF AFRICA: Survey of Africa from early times to the present, focusing on political grandeur, commercial ingenuity, intellectual ferment, and religious revolutions. *3 sem. hrs.*

*HST 340. HISTORY OF SCIENCE: Survey of the development of science from its origins in the ancient world to the present. *3 sem. hrs.*

*HST 341. HISTORICAL PERSPECTIVES ON SCIENCE, TECHNOLOGY, AND SOCIETY: Historical examination of the interaction of science, technology, and society from the Middle Ages to the present. *3 sem. hrs.*

HST 345. IRELAND AND AMERICA: Study of the cultural-historical background of both Scotch-Irish and Celtic Irish immigrants to America and how that influenced their varying reactions to the dominant Anglo-Saxon Protestantism of America. *3 sem. hrs.*

HST 348. UNITED STATES AND THIRD WORLD CRISES—HISTORICAL PERSPECTIVES: Analysis of the history of U.S. policies and responses toward major crises in Africa, Asia, Latin America, and the Middle East. *3 sem. hrs.*

HST 351. AMERICAN FEMINISM: Historical study of the changing roles of women in American society and the struggle for social, political, economic, legal, and educational rights from the 17th century to the present. *3 sem. hrs.*

*HST 355. AMERICAN URBAN HISTORY: Historical analysis of community life in American society: the nature and development of small towns, cities, and suburbs; communal experience, social organizations, and political culture. *3 sem. hrs.*

HST 357. LATIN AMERICA IN THE TWENTIETH CENTURY: Intensive examination of revolution and reaction in today's Latin America and the implications for those who formulate U.S. foreign policy. *3 sem. hrs.*

HST 360. HISTORY OF MENTAL HEALTH CARE IN AMERICA: History of the treatment of the mentally ill in America from colonial times to the present. *3 sem. hrs.*

HST 365. AMERICAN FILMS AS HISTORY: Study of the development of American values, myths, institutions, and perspectives through the use of films as a primary source. *3 sem. hrs.*

*HST 370. ECONOMIC HISTORY OF THE UNITED STATES: Survey of the economic theories and institutions peculiar to the United States with special reference to their influence on social and political development. *3 sem. hrs.*

HST 375. DIPLOMATIC HISTORY OF THE UNITED STATES: Foundations of American foreign policy; the diplomacy of continental expansion through the 19th century; emphasis on diplomatic problems since 1898. *3 sem. hrs.*

*HST 376. SOCIAL AND CULTURAL HISTORY OF THE UNITED STATES: Social and cultural development of the American people: growth of national spirit, impact of expansion, conflict over slavery, and problems of industrialization and urbanization. *3 sem. hrs.*

HST 380. HISTORY OF THE AMERICAN INDIAN: Historical and descriptive survey of the native peoples of North America. *3 sem. hrs.*

HST 390. THE WESTWARD MOVEMENT: A history of the expansion of settlement in the U.S. since 1783: explorations, Indian relations, land policy, transportation, types of frontier settlements, and western influence on American ideals and institutions. *3 sem. hrs.*

HST 391. AMERICAN ARCHITECTURAL HISTORY AND PRESERVATION: A career-oriented course offering a theoretical background in historical preservation and techniques used in identification, research, and recording of historic landmarks worthy of preservation as part of the community heritage. *3 sem. hrs.*

HST 398. HISTORY OF BLACKS IN THE UNITED STATES, 1526-1900: Study of the saga of black people in the U.S. from 1526 until 1900. *3 sem. hrs.*

HST 399. HISTORY OF BLACKS IN THE UNITED STATES SINCE 1900: Study of the saga of black people in the U.S. from 1900 to the present. *3 sem. hrs.*

HST 402. MAIN CURRENTS IN ANCIENT HISTORY: Aspects of the civilizations of the ancient Near East, Greece, and Rome, emphasizing the Hebrew world view and value system, Greek democracy, Roman political and social institutions. *3 sem. hrs.*

*HST 405. MEDIEVAL EUROPE: European history from the 4th to the 15th century, including birth of Middle Ages; development of Christianity; Byzantine, Islamic, and Carolingian Empires; feudalism; Crusades; rise of universities; birth of national cultures. *3 sem. hrs.*

HST 407. RENAISSANCE AND REFORMATION: The development of European history from the 14th to the middle of the 17th century. Emphasis on the economic, political, social, and religious aspects of the Renaissance, Protestant Revolution, and Catholic Reformation. *3 sem. hrs.*

HST 411. ERA OF ABSOLUTISM, ENLIGHTENMENT: From the later Reformation to the era of the French Revolution: intellectual and cultural development; political, economic, and social trends of the Old Regime. *3 sem. hrs.*

HST 412. FRENCH REVOLUTION AND NAPOLEONIC ERA: Ideological, economic, social, and political background of the Revolution; analysis of the revolutionary governments; the resulting international wars; the rise and fall of Napoleon. *3 sem. hrs.*

HST 415. SOVIET UNION SINCE 1917: Detailed survey and analysis of the historical development of the U.S.S.R. from the Revolution of 1917 to the present. *3 sem. hrs.*

HST 416. EUROPEAN MILITARY HISTORY: Survey of warfare on the European continent from classical Greece through World War II emphasizing military institutions, organization, weapons, and campaigns and the role of the military in society. *3 sem. hrs.*

HST 417. AMERICAN MILITARY HISTORY: Survey of American military affairs, including military, naval, and air campaigns, from early settlement to the present. *3 sem. hrs.*

HST 419. MODERN FRANCE: French history from the Bourbon Restoration to the present. Emphasis on political, socio-economic, and cultural factors. *3 sem. hrs.*

HST 420. MODERN ITALY: Italian history from the settlement imposed by the Congress of Vienna in 1815 to the present. Emphasis on socio-economic, political, and cultural factors. *3 sem. hrs.*

HST 421. MODERN GERMANY: Analysis of the development of the German state from 1843 through the period of unification, Second Empire, Weimar Republic, Third Reich, the post-World War II Germanies, to the present. *3 sem. hrs.*

HST 423. HISTORY OF LONDON: Study of the evolution of London from a small Roman town to the world's first industrial metropolis. Particular attention to social and environmental conditions and the life of the people. *3 sem. hrs.*

*HST 424. ENGLISH CONSTITUTIONAL AND LEGAL HISTORY: Study of the origins and development of common law and parliamentary government in England from the Saxons to the present. *3 sem. hrs.*

HST 426. TUDOR-STUART ENGLAND: Study of England from 1485 to 1714: Development of the national state, royal absolutism, and the Reformation; evolution of the constitutional question; diplomacy; social, economic, and cultural aspects of the period. *3 sem. hrs.*

HST 428. MODERN ENGLAND—1815 TO PRESENT: Development of England as an industrialized nation and as an empire; results of industrialization, urbanization, and loss of empire due to two world wars. *3 sem. hrs.*

HST 438. THE MIDDLE EAST, NINETEENTH AND TWENTIETH CENTURIES: Survey of the Ottoman Empire, Iran, Egypt, and the modern states of the Middle East, emphasizing the development of nationalism and the area's role in international politics. *3 sem. hrs.*

HST 440. MODERN CHINA AND JAPAN: Study of the economic, political, social, and cultural developments of modern China and Japan from the 18th century to the present. *3 sem. hrs.*

HST 445. KOREAN AND VIETNAM WARS: Study of the two most important wars fought by the U.S. after World War II, in the context of America's changing global role. *3 sem. hrs.*

HST 450. THE FOUNDING OF AMERICA: Foundations of American nationality and democratic growth under the British colonial system, with special attention to the economic, political, social, and cultural life of the era. *3 sem. hrs.*

HST 454. THE AGE OF JEFFERSON AND JACKSON: The range of historical, cultural, social, and political trends traditionally associated with the presidencies of Jefferson and Jackson; the period from the 1790's to the 1850's. *3 sem. hrs.*

HST 455. THE AMERICAN SOUTH, 1607 TO PRESENT: Study of the role of the South in American History. *3 sem. hrs.*

HST 456. CIVIL WAR AND RECONSTRUCTION: Remote and immediate causes of the Civil War; problems of North and South during the war; consequences of the war; efforts to create a new Union, 1865 to 1877; problems caused by those efforts. *3 sem. hrs.*

*HST 460. U.S. LEGAL AND CONSTITUTIONAL HISTORY I: From colonial beginnings through Reconstruction. The first semester of a year's sequence that analyzes the major developments in American legal and constitutional thought and institutions. Emphasis on the relationship between law and lawyers and America's economic, social, and political development. *3 sem. hrs.*

HST 461. U.S. LEGAL AND CONSTITUTIONAL HISTORY II: From the Gilded Age to the present. Continuation of HST 460. Prerequisite: HST 460. *3 sem. hrs.*

*HST 465. HISTORY OF AMERICAN BUSINESS: Historical study of the evolution of modern capitalism from the colonial period to the present. *3 sem. hrs.*

*HST 466. HISTORY OF SCIENCE, TECHNOLOGY, AND THE MODERN CORPORATION: Historical study of the emergence of 20th-century science-based industry. *3 sem. hrs.*

HST 470. HISTORY OF THE COLD WAR: A study of the origins and evolution of the Cold War from 1917 to the present. *3 sem. hrs.*

HST 472. THE SOUTHERN APPALACHIAN REGION: Study and appraisal of the internal and external historical forces that have shaped Appalachia. *3 sem. hrs.*

HST 473. THE AGE OF EXCESS AND REFORM—UNITED STATES, 1877-1920: Development of the U.S. as an urban-industrial nation and world power; efforts to maintain traditional political, social, and economic forms and values amidst rapid change. *3 sem. hrs.*

HST 476. BETWEEN THE WARS: Intensive study of chief facets of United States history from 1919 to 1941, including Normalcy, the Depression, the evolving New Deal, and the approach of World War II. *3 sem. hrs.*

HST 477. CONTEMPORARY AMERICAN HISTORY: The immediate background of contemporary political, social, and economic problems: impact of World War II on the U.S., Cold War, New Frontier, Johnson Administration, and beyond. *3 sem. hrs.*

HST 482. THE HISTORY OF MEXICO: Mexican History since 1820. Origins of the revolution of 1910 and its developments to the present; Mexico's struggle for democracy; diplomatic and cultural relations between Mexico and the U.S. *3 sem. hrs.*

HST 484. CARIBBEAN SINCE 1801: Study of the cultural, social, economic, and political history of the islands and the northern shore of South America in modern times, stressing areas that have gained independence or autonomy. *3 sem hrs.*

HST 490. STRATEGIES OF HISTORIANS: A seminar which investigates the various intellectual processes by which historians have approached particular questions. A wide sampling of the works of representative historians is supplemented by analysis of their methodologies and philosophies of history. Prerequisite: HST major or completion of 12 sem. hrs. of history; permission. *3 sem. hrs.*

HST 491. SENIOR SEMINAR: A reading seminar concentrating on one historical topic for detailed analysis. May be repeated as topics change. Check department for prerequisites. Permission of chairperson required. *3 sem. hrs.*

HST 492. HISTORY HONORS SEMINAR: A reading seminar concentrating on one historical topic for detailed analysis. May be repeated as topics change. Check department for prerequisites. Permission of chairperson required. *3 sem. hrs.*

HST 495. INTERNSHIP: Practical approach to history through field study and work with historical societies and architectural preservation boards. *3 sem. hrs.*

HST 496. INDEPENDENT STUDY: The study of a special topic to be mutually selected by the student and a history professor. Prerequisite: Permission of chairperson. May be repeated once. *1-6 sem. hrs.*

HST 497. HONORS TUTORIAL: The study of a special topic to be selected by the instructor. Applicants will be admitted on the basis of academic record. May be repeated once. *1-6 sem. hrs.*

HST 499. TOPICS IN HISTORY: Specific subtitles and descriptions to be announced in the composite and posted in the History Department office. *1-6 sem. hrs.*

*General education course. See Chapter V.

HOME ECONOMICS (HEC)

Home economics is the study of interrelationships within the family and between the family and individuals and the environment. It is concerned with achieving, maintaining, and enhancing family and individual well-being in daily life. Thus it is a diversified field of applied knowledge and service integrating many disciplines.

The Bachelor of Science with a Major in Home Economics is currently awarded in two areas: Home Economics (General) and Home Economics (Food and Nutrition).

HOME ECONOMICS (GENERAL)

Students following the General Home Economics Program have four options for concentration. Each student will follow the basic curriculum, which provides an overview of the discipline, and choose one of the following: I. Clothing, Textiles, and Fashion Merchandising; II. Consumer Science; III. Family and Child Development; IV. Interior Design.

Program Summary	*Semester Hours*
Home economics	39
BIO 101-102 or CHM 123-124	8
MTH 207	3
Mathematics or computer science	3
Social and behavioral sciences	6
Philosophy and/or religious studies	12
Humanities	9
ENG 101-102, ENG elective	9
SPE 101	3
General education courses and academic electives to total at least	120

Basic Curriculum		*Semester Hours*
HEC 103	Introduction to Home Economics	1
HEC 105	Related Art	3
HEC 303	Nutrition and Health or	
HEC 437-437L	Meal Management and Laboratory	3
HEC 306	Family Management or	
HEC 321	The Consumer and Society	3
HEC 318	Family Living	3
HEC 320	Family Housing	2
HEC 323	Demonstration Techniques	2
HEC 325	Child Development	3
HEC 360	Clothing Selection and Consumption	3
		23

The student will select one of the following options of 16 semester hours to bring the total to 39 semester hours.

I. *Clothing, Textiles, and Fashion Merchandising*[1]		*Semester Hours*
HEC 101-101L	Introductory Clothing and Laboratory	3
HEC 214	Textiles	3
HEC 311-311L	Advanced Clothing and Laboratory[2]	3
HEC 362	Textiles and Apparel Industries	3
HEC 404	Fashion Merchandising	3
HEC 436	Independent Study or	
HEC 470	Home Economics Laboratory Internship	1
		16

[1]The student will seek a minor in marketing.
[2]The student may substitute HEC 341, Social Issues in Consumerism.

II. *Consumer Science*[1]		*Semester Hours*
HEC 309	Household Equipment	3
HEC 331	Money Management	3
HEC 341	Social Issues in Consumerism	3
HEC 436	Independent Study and/or	
HEC 470	Home Economics Laboratory Internship	4
HEC 437-437L	Meal Management and Laboratory[2]	3
		16

[1]The student will elect support courses in economics, political science, criminal justice, and marketing and will take HEC 321, The Consumer and Society, in the basic curriculum.
[2]The student will take HEC 303, Nutrition and Health, in the basic curriculum.

III. *Family and Child Development*[1]		*Semester Hours*
HEC 329	Child Development Practicum	3
HEC 341	Social Issues in Consumerism	3
HEC 403	Community Nutrition	2
HEC 406	Family Management Practicum[2]	3
HEC 429	Management of Pre-School Programs	2
HEC 436	Independent Study and/or	
HEC 470	Home Economics Laboratory Internship	3
		16

[1]The student will elect support courses in anthropology, education, psychology, social work, and sociology.
[2]The student will take the prerequisite, HEC 306, Family Management, in the basic curriculum.

IV. *Interior Design*[1]		*Semester Hours*
HEC 214	Textiles	3
HEC 330,340,350	Interior Design I, II, III	9
HEC 430	Issues in Interior Design	2
HEC 470	Home Economics Laboratory Internship	2
		16

[1]The student will take the following support courses in fine arts:

ART 104	Introductory Drawing	3
ART 183-184	Visual Fundamentals I, II	6
ART 216	Color and Design	3
ART 307	Drawing for the Commercial Artist	2
ART 311	Design III	2
		16

PROGRAM—S6: BACHELOR OF SCIENCE WITH A MAJOR IN HOME ECONOMICS (GENERAL) (HEG)[1]

Dept.	*No.*	*Course*	*1st Term*[2]	*2nd Term*
		Freshman Year		
HEC	100	Freshman Orientation Seminar	1-0-0	
HEC	103	Introduction to Home Economics		1-0-1
HEC	105	Related Art	3-0-3	
BIO	101-102	General Biology[3]	3-3-4[2]	3-3-4
ENG	101-102	College Composition I and II	3-0-3	3-0-3
SPE	101	Fundamentals of Effective Speaking		3-0-3
—	—	General education and breadth requirements	6-0-6	6-0-6
			16	17
		Sophomore Year		
HEC	214	Textiles		3-0-3
HEC	325	Child Development	3-0-3	
HEC	360	Clothing Selection and Consumption	3-0-3	
HEC	—	Home Economics Option courses	3-0-3	3-0-3
MTH	207	Statistical Methods for Behavioral Sciences	3-0-3	
ENG	—	English elective		3-0-3
—	—	General education and breadth requirements	3-0-3	6-0-6
			15	15
		Junior Year		
HEC	303	Nutrition and Health or		
HEC	437	Meal Management	3-0-3	
HEC	306	Family Management or		
HEC	321	Consumer and Society	3-0-3	
HEC	309	Household Equipment		3-0-3
HEC	318	Family Living		3-0-3
HEC	320	Family Housing		2-0-2
HEC	—	Home Economics Option courses	6-0-6	3-0-3
—	—	General education and breadth requirements	3-0-3	6-0-6
			15	17
		Senior Year		
HEC	323	Demonstration Techniques		2-0-2
HEC	—	Home Economics Option courses	3-0-3	1-0-1
—	—	Mathematics or computer science		3-0-3
—	—	Breadth requirements and electives	12-0-12	6-0-6
			15	12

[1]Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements. Some general education courses are specified in the program (e.g., BIO 101-102); others are to be chosen from the listing of approved courses. Check with advisor.

[2]For example, 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. of credit.

[3]May substitute CHM 123-124.

HOME ECONOMICS (FOOD AND NUTRITION)

The Bachelor of Science with a Major in Home Economics (Food and Nutrition) allows for the following three areas of concentration:

Program S7: Bachelor of Science with a Major in Home Economics (Food and Nutrition—ADA Plan IV) (HEA)

Program S7A: Bachelor of Science with a Major in Home Economics (Food and Nutrition—Food Systems) (HEF)

Program S7B: Bachelor of Science with a Major in Home Economics (Food and Nutrition—Nutrition) (HEN)

HOME ECONOMICS (FOOD AND NUTRITION—ADA PLAN IV)

Program S7: Plan IV of the American Dietetic Association (ADA) prepares the student to function as a professional in some phase of nutritional care. Plan IV meets the standards of the ADA to enter a fifth year of study in a dietetic internship program.

Program Summary	*Semester Hours*
Home economics	39
Anthropology 150 or Sociology 204	3
Biology 101, 102, 411L	10
Chemistry 123, 124, 313, 314, 420	19
Physical and Health Education 305, 306	6
Psychology 101 or Sociology 101	3
Philosophy and/or religious studies	12
English 101, 102, 370 or 272 or 372	9
Speech 101	3
Accounting 301	3
Management 305, 314	6
Economics 203	3
Mathematics 207	3
Mathematics or computer science	3
Humanities	12
General education courses and academic electives to total at least	120

PROGRAM—S7: BACHELOR OF SCIENCE WITH A MAJOR IN HOME ECONOMICS (FOOD AND NUTRITION—ADA PLAN IV) (HEA)[1]

Dept.	*No.*	*Course*	*1st Term*[2]	*2nd Term*
		Freshman Year		
HEC	100	Freshman Orientation Seminar	1-0-0[2]	
HEC	200	Introductory Foods		2-4-4
HEC	202	Introduction to Hospital Dietetics		1-0-1
CHM	123-124	General Chemistry	3-3-4	3-3-4
ENG	101-102	College Composition I and II	3-0-3	3-0-3
PSY	101	General Psychology[3]		3-0-3

ANT	150	Cultural Anthropology[3]	3-0-3	
SPE	101	Fundamentals of Effective Speaking	3-0-3	
—	—	General education or breadth requirement	3-0-3	
			16	15
		Sophomore Year		
BIO	101-102	General Biology	3-3-4	3-3-4
CHM	313-314	Organic Chemistry	3-3-4	3-3-4
ENG	370	Report Writing[4]		3-0-3
HEC	303	Nutrition and Health	3-0-3	
HEC	325	Child Development	3-0-3	
ECO	203	Principles of Microeconomics		3-0-3
MTH	207	Statistical Methods for Behavioral Sciences	3-0-3	
—	—	General education or breadth requirement		3-0-3
			17	17
		Junior Year		
CHM	420	Biochemistry		3-0-3
EDD	305-306	Anatomy and Physiology[5]	3-0-3	3-0-3
HEC	—	Foods elective	3-0-3	
HEC	304	Quantity Foods Production	3-0-3	
HEC	308	Institutional Buying		3-0-3
HEC	323	Demonstration Techniques		2-0-2
MGT	305	Management and Organization		3-0-3
—	—	Mathematics or computer science	3-0-3	
—	—	General education and breadth requirements	5-0-5	3-0-3
			17	17
		Senior Year		
HEC	318	Family Living		3-0-3
HEC	357	Food Microbiology	3-0-3	
HEC	401	Advanced Nutrition		3-0-3
HEC	402	Diet Therapy	3-0-3	
HEC	405	Teaching of Home Economics in Schools[6]	3-0-3	
HEC	407	Food Service Systems Management	3-0-3	
ACC	301	Financial Reporting and Administration	3-0-3	
BIO	411L	General Microbiology Laboratory	0-4-2	
MGT	314	Personnel Management		3-0-3
—	—	General education and breadth requirements		6-0-6
			17	15

[1]Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements. Some general education courses are specified in the program (e.g., BIO 101-102); others are to be chosen from the listing of approved courses. Check with advisor.

[2]For example, 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. of credit.

[3]May substitute SOC 101 for PSY 101; may substitute SOC 204 for ANT 150.

[4]May substitute ENG 272 or 372.

[5]May substitute BIO 403 with permission.

[6]May substitute EDT 208.

HOME ECONOMICS (FOOD AND NUTRITION—FOOD SYSTEMS)

Program S7A: The Food Systems area of the Food and Nutrition major prepares the student for a career in a commercial aspect of food management.

Program Summary	*Semester Hours*
Home economics	33
Biology 101, 102, 411L	10
Chemistry 123, 124	8
English 101-102; 370 or 372	9
Philosophy and/or religious studies	12
Psychology 101 or Sociology 101 or 204	3
Speech 101	3
Economics 203, 204	6
Mathematics 112, 113, 207	9
Management 305, elective	6
Accounting 207, 208	6
Finance 301	3
Marketing 305	3
General education courses and academic electives to total at least	120

PROGRAM—S7A: BACHELOR OF SCIENCE WITH A MAJOR IN HOME ECONOMICS (FOOD AND NUTRITION—FOOD SYSTEMS) (HEF)[1]

Dept.	*No.*	*Course*	*1st Term*[2]	*2nd Term*
		Freshman Year		
HEC	100	Freshman Orientation Seminar	1-0-0[2]	
HEC	200	Introductory Foods		2-4-4
ENG	101-102	College Composition I and II	3-0-3	3-0-3
SPE	101	Fundamentals of Effective Speaking		3-0-3
CHM	123-124	General Chemistry	3-3-4	3-3-4
PSY	101	General Psychology[3]	3-0-3	
MTH	112-113	Introductory Calculus I and II	3-0-3	3-0-3
—	—	General education or breadth requirement	3-0-3	
			16	17
		Sophomore Year		
HEC	303	Nutrition and Health		3-0-3
HEC	325	Child Development	3-0-3	
ECO	203-204	Microeconomics and Macroeconomics	3-0-3	3-0-3
BIO	101-102	General Biology	3-3-4	3-3-4
ENG	370	Report Writing[4]	3-0-3	
MTH	207	Statistical Methods for Behavioral Sciences		3-0-3
—	—	General education and breadth requirements	3-0-3	3-0-3
			16	16

		Junior Year		
HEC	304	Quantity Food Production	3-0-3	
HEC	308	Institutional Buying		3-0-3
HEC	318	Family Living		3-0-3
HEC	321	The Consumer and Society	3-0-3	
ACC	207-208	Principles of Accounting	3-0-3	3-0-3
MGT	305	Principles of Management and Organization	3-0-3	
MKT	305	Principles of Marketing		3-0-3
—	—	General education and breadth requirements	3-0-3	3-0-3
			15	15
		Senior Year		
HEC	323	Demonstration Techniques		2-0-2
HEC	327	Experimental Foods	2-3-3	
HEC	357	Food Microbiology	3-0-3	
HEC	407	Food Service Systems Management	3-0-3	
BIO	411L	General Microbiology Laboratory	0-4-2	
FIN	301	Business Finance	3-0-3	
MGT	—	Management elective		3-0-3
—	—	General education and breadth requirements	3-0-3	3-0-3
—	—	Electives		9-0-9
			17	17

[1]Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements. Some general education courses are specified in the program (e.g., BIO 101-102); others are to be chosen from the listing of approved courses. Check with advisor.

[2]For example 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. of credit.

[3]May take SOC 101 or 204.

[4]May substitute ENG 372.

HOME ECONOMICS (FOOD AND NUTRITION—NUTRITION)

Program S7B: A student who selects the nutrition area of the Food and Nutrition major may function as a nutritionist or may elect to continue the study of nutrition in graduate work and research.

Program Summary	*Semester Hours*
Home economics	36
Chemistry 123, 124, 313, 314, 420	19
Biology 101, 102, 411L	8
English 111, 112, 370 or 372	10
Physical and Health Education 305, 306	6
Mathematics 207	3
Mathematics or computer science	3
Psychology 101 or Sociology 101 or 204	3
Speech 101	3
Philosophy and/or religious studies	12
General education courses and academic electives to total at least	120

PROGRAM—S7B: BACHELOR OF SCIENCE WITH A MAJOR IN HOME ECONOMICS (FOOD AND NUTRITION—NUTRITION) (HEN)[1]

Dept.	*No.*	*Course*	*1st Term*[2]	*2nd Term*
		Freshman Year		
HEC	100	Freshman Orientation Seminar	1-0-0[2]	
HEC	200	Introductory Foods	2-4-4	
ENG	101-102	College Composition I and II	3-0-3	3-0-3
CHM	123-124	General Chemistry	3-3-4	3-3-4
SPE	101	Fundamentals of Effective Speaking		3-0-3
PSY	101	General Psychology[3]		3-0-3
—	—	General education and breadth requirements	6-0-6	3-0-3
			17	16
		Sophomore Year		
HEC	325	Child Development	3-0-3	
BIO	101-102	General Biology	3-3-4	3-3-4
CHM	313-314	Organic Chemistry	3-3-4	3-3-4
ENG	370	Report Writing[4]		3-0-3
EDD	305-306	Anatomy and Psysiology[5]	3-0-3	3-0-3
MTH	207	Statistical Methods for Behavioral Science		3-0-3
—	—	General education or breadth requirement	3-0-3	
			17	17
		Junior Year		
HEC	303	Nutrition and Health	3-0-3	
HEC	318	Family Living		3-0-3
HEC	323	Demonstration Techniques		2-0-2
HEC	327	Experimental Foods	2-3-3	
HEC	401	Advanced Nutrition		3-0-3
HEC	410	Nutritional Biochemistry with Laboratory	1-3-2	
CHM	420	Biochemistry		3-0-3
—	—	General education and breadth requirements	9-0-9	6-0-6
			17	17
		Senior Year		
HEC	357	Food Microbiology	3-0-3	
HEC	403	Community Nutrition		3-0-3
HEC	436	Special Problems in Nutrition	3-0-3	
HEC	451	Advanced Nutritional Biochemistry		3-0-3
HEC	460	Seminar in Food and Nutrition	1-0-1	
BIO	411L	General Microbiology Laboratory	0-4-2	
—	—	Mathematics or computer science	3-0-3	
—	—	Electives	3-0-3	9-0-9
			15	15

[1]Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements. Some general education courses are specified in the program (e.g., BIO 101-102); others are to be chosen from the listing of approved courses. Check with advisor.

[2]For example 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. of credit.

[3]May take SOC 101 or 204.

[4]May substitute ENG 272 or 372.

[5]May substitute BIO 403 with permission.

FACULTY

Julia A. Palmert, *Chairperson*
Professor Emerita: Schroeder
Associate Professor: Lefler
Assistant Professors: De Luca, Palmert
Part-time Instructors: Butler, Eppley, Freeman, Herald, Jefferis, Jeffries, Margulis, Metzger, Moss

COURSES OF INSTRUCTION

HEC 101. INTRODUCTORY CLOTHING: Study of clothing selection and construction of a basic garment using a commercial pattern with emphasis on fitting, dressmaking techniques, and finishing procedures. Corequisite: HEC 101L. *2 sem. hrs.*

HEC. 101L. INTRODUCTORY CLOTHING LABORATORY: Course to accompany HEC 101 lecture. One 3-hour period each week. Corequisite: HEC 101. *1 sem. hr.*

HEC 103. INTRODUCTION TO HOME ECONOMICS: Study of the role and scope of home economics with emphasis on professional development. *1 sem. hr*

HEC 105. RELATED ART: Study of the elements and principles of design and their application in the selecting and arranging of materials. *3 sem. hrs.*

HEC 111. BASIC CLOTHING CONSTRUCTION: For nonmajors only. Introduction to the sections of the commercial pattern and guide sheet, the operation of the sewing machine, and basic techniques of clothing construction with a minimal emphasis on alterations. Corequisite: HEC 111L. *2 sem. hrs.*

HEC 111L. BASIC CLOTHING CONSTRUCTION LABORATORY: Course to accompany HEC 111 lecture. One 3-hour period each week. Corequisite: HEC 111. *1 sem. hr.*

HEC 200. INTRODUCTORY FOODS: Application of scientific principles to food preparation and evaluation. Corequisite: HEC 200L. *2 sem. hrs.*

HEC 200L. INTRODUCTORY FOODS LABORATORY: Course to accompany HEC 200 lecture. Two 2-hour periods per week. Corequisite: HEC 200. *2 sem. hrs.*

HEC 202. INTRODUCTION TO HOSPITAL DIETETICS: To acquaint the student interested in a career in dietetics with the profession of dietetics and the role and responsibilities of the dietitian. Primary emphasis on dietetics as practiced in hospitals. *1 sem. hr.*

HEC 203. ELEMENTARY NUTRITION: Course for the nonmajor interested in food and nutrition. Emphasis on basic nutrition as it applies to the individual. Contemporary issues pertaining to nutrition. *2 sem. hrs.*

HEC 214. TEXTILES: Study of the natural, thermoplastic, and nonthermoplastic fibers, including yarns, structures, and finishing of fabrics for their use and care. *3 sem. hrs.*

HEC 300. CULTURAL ASPECTS OF FOOD: Study of the effect of culture and food resources on food patterns and food preparation; historical evolution of food; U.S. regional food habits. Corequisite: HEC 300L. *2 sem. hrs.*

HEC 300L. CULTURAL ASPECTS OF FOOD LABORATORY: Course to accompany HEC 300 lecture. One 3-hour period each week. Corequisite: HEC 300. *1 sem. hr.*

HEC 303. NUTRITION AND HEALTH: Fundamental principles of normal nutrition as they relate to human needs—physical, biological, and socio-cultural. Emphasis on selection and utilization of foods during the life cycle. *3 sem. hrs.*

HEC 304. QUANTITY FOOD PRODUCTION: Basic steps of quantity food service systems. Coordinated working experience. Prerequisite: HEC 200. *3 sem. hrs.*

HEC 306. FAMILY MANAGEMENT: A systems approach to the study of home management and the use of resources (time, energy, money, and material goods) to promote the development of home and family life from the consumer standpoint. *3 sem. hrs.*

HEC 308. INSTITUTIONAL BUYING: Application of principles for determining needs and procuring and storing foods in quantity. Institutional equipment selection, maintenance, and layout. *3 sem. hrs.*

HEC 309. HOUSEHOLD EQUIPMENT: Study of the principles of selection, construction, operation, and care of household equipment and its relation to the well being of the family. Prerequisite: HEC 200 or equivalent. *3 sem. hrs.*

HEC 311. ADVANCED CLOTHING: The application of the personal basic-fitting garment to a commercial dress pattern and tailored pant pattern for the construction of an underlined garment and tailored pants. Prerequisite: HEC 101. Corequisite: HEC 311L. *2 sem. hrs.*

HEC 311L. ADVANCED CLOTHING LABORATORY: Course to accompany HEC 311 lecture. One 3-hour period each week. Corequisite: HEC 311. *1 sem. hr.*

*HEC 318. FAMILY LIVING: Developmental tasks, socio-economic and cultural influences on family interaction at each stage of the life cycle. Open to the University. *3 sem. hrs.*

HEC 320. FAMILY HOUSING: Topics include housing constraints, needs, alternatives, environment, finance, and government involvement in housing. Open to the University. *2-3 sem. hrs.*

*HEC 321. THE CONSUMER AND SOCIETY: The economic interrelationship of the political, business, and household systems from the consumer point of view. How to gain and use knowledge to improve economic welfare of the consumer. Open to the University. *3 sem. hrs.*

HEC 323. DEMONSTRATION TECHNIQUES: Study of the principles and techniques of lecture-demonstrations. Emphasis on student lecture-demonstrations. *2 sem. hrs.*

HEC 325. CHILD DEVELOPMENT: Developmental study of stages and principles from infancy through adolescence. Observation and work in nursery school arranged. Open to the University. *3 sem. hrs.*

HEC 327. EXPERIMENTAL FOODS: Comparative and experimental approach to food preparation as it affects quality. Introduction to the standard experimental procedures leading to independent project of student's choice. Prerequisite: HEC 200. Corequisite: HEC 327L. *2 sem. hrs.*

HEC 327L. EXPERIMENTAL FOODS LABORATORY: Course to accompany HEC 327 lecture. One 3-hour laboratory period each week. Corequisite: HEC 327. *1 sem. hr.*

HEC 329. CHILD DEVELOPMENT PRACTICUM: Supervised experience in working with preschool children and their parents. Case study and nursery school participation arranged. Two hours of lecture and 3 hours of work experience each week. Prerequisite: HEC 325. *3 sem. hrs.*

HEC 330. INTERIOR DESIGN I: Fundamentals of selection and arrangement of furnishings in the home, considering the principles of design, individual family needs, and available resources. No prerequisite. *3 sem. hrs.*

HEC 331. MONEY MANAGEMENT: Study of the management of financial resources and allocation of income to various consumption activities. Open to the University. *3 sem. hrs.*

HEC 340. INTERIOR DESIGN II: History of art, architecture, and interiors from the new wave to modern times; influences reflected in America from past cultures. No prerequisite. *3 sem. hrs.*

*HEC 341. SOCIAL ISSUES IN CONSUMERISM: Various issues related to the social aspects of consumerism analyzed within the context of business, government, and consumers, emphasizing the interrelationships among the three sectors. Open to the University. *3 sem hrs.*

HEC 350. INTERIOR DESIGN III: Practical application of interior design principles and the business of being an interior designer. Prerequisites: HEC 330, 340; ART 307. *3 sem. hrs.*

HEC 357. FOOD MICROBIOLOGY: Study of microorganisms that are related to food-borne illnesses, food preservation, and food sanitation. Prerequisites: BIO 101-102. Corequisite: BIO 411L. *3 sem. hrs.*

HEC 360. CLOTHING SELECTION AND CONSUMPTION: Study of clothing with emphasis on social, psychological, and economic relationships. Open to the University. *3 sem. hrs.*

HEC 362. TEXTILE AND APPAREL INDUSTRIES: Study of domestic and international textile and apparel industries from a historical perspective; cultural and economic influences; current issues. *3 sem. hrs.*

HEC 401. ADVANCED NUTRITION: Extension of the student's knowledge of the science of nutrition, stressing the metabolism of food constituents and recent advances in the field of nutrition. Prerequisites: HEC 303, CHM 420. *3 sem. hrs.*

HEC 402. DIET THERAPY: Study of diet modification for the effective prevention and treatment of disease; health care delivery, medical technology, review of organ systems (normal and pathologic), diet counseling, menu planning, research. Prerequisite: Biochemistry, HEC 303, or permission of instructor. *3 sem. hrs.*

HEC 403. COMMUNITY NUTRITION: Study of public health nutrition programs and their services to the community. An opportunity to explore alternate methods of health care delivery and preventive measures. *2 sem. hrs.*

HEC 404. FASHION MERCHANDISING: Study of the movement of fashion, the promotion of fashion; advertising and display, trends in retail fashion distribution. *3 sem. hrs.*

HEC 405. TEACHING OF HOME ECONOMICS IN SCHOOLS: Study of vocational home economics philosophy and organizational structure. Instructional planning and developing media, methods, and materials for consumer homemaking. Students seeking vocational certification take 4-sem.-hr. version of this course. *3-4 sem. hrs.*

HEC 406. FAMILY MANAGEMENT PRACTICUM: Integration of managerial concepts with activities related to students' own lives to foster the attitude that these concepts are useful in individual and family living. *3 sem. hrs.*

HEC 407. FOOD SERVICE SYSTEMS MANAGEMENT: Principles related to feeding people in institutions; personnel management, organization, administration, and cost control. *3 sem. hrs.*

HEC 410. NUTRITIONAL BIOCHEMISTRY: Biochemical and clinical methods for the study of nutrition; evaluation and interpretation of the data in relation to various nutritional states. Prerequisite: CHM 420. Corequisite: HEC 410L. *1 sem. hr.*

HEC 410L. NUTRITIONAL BIOCHEMISTRY LABORATORY: Course to accompany HEC 410 lecture. One 3-hour period each week. Corequisite: HEC 410. *1 sem. hr.*

HEC 415. TAILORING: Tailoring techniques as applied to the construction of coats and suits. Two lecture periods each week. Prerequisites: HEC 101, 105, 311. Corequisite: HEC 415L. *2 sem. hrs.*

HEC 415L. TAILORING LABORATORY: Course to accompany HEC 415 lecture. Three laboratory hours each week. Corequisite: HEC 415. *1 sem. hr.*

HEC 429. MANAGEMENT OF PRE-SCHOOL PROGRAMS: Thorough examination of philosophies and program models with implication for planning, administering, and evaluating pre-school programs. *2 sem. hrs.*

HEC 430. ISSUES IN INTERIOR DESIGN: Investigation of the elements of housing and interiors from economic, functional, and aesthetic points of view. Topics may vary from term to term. *1-3 sem. hrs.*

HEC 436. INDEPENDENT STUDY: A course to allow students to concentrate on special interests. Original investigation, independent conferences, and reports are required. Approval of department chairperson and instructor. *1-6 sem. hrs.*

HEC 437. MEAL MANAGEMENT: Development of the ability to plan, prepare, and serve palatable, nutritious and attractive meals at various economic levels. Corequisite: HEC 437L. Open to the University. *2 sem. hrs.*

HEC 437L. MEAL MANAGEMENT LABORATORY: Course to accompany HEC 437 lecture. One 2-hour period each week. Corequisite: HEC 437. *1 sem. hr.*

HEC 451. ADVANCED NUTRITIONAL BIOCHEMISTRY: Comprehensive study of the role of nutrients in the control of body metabolism. Prerequisites: CHM 420, HEC 401. *3 sem. hrs.*

HEC 455. PHARMACOLOGY—NUTRITION IMPLICATIONS: Study of the effect of drug therapy on the patient's body processes and nutritional status, including indications, dosage, cautions, side effects, monitoring, and drug-food interactions. *3 sem. hrs.*

HEC 460. SEMINAR IN FOOD AND NUTRITION: Survey, discussion, and oral presentation of selected topics from current food and nutrition literature. May be taken twice. *1 sem. hr.*

HEC 470 HOME ECONOMICS LABORATORY INTERNSHIP: Practical field experience in the student's major area of interest. Prerequisite: permission of department chairperson. Grade option 2. *1-6 sem. hrs.*

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*General education course. See Chapter V.

HUMANITIES STUDIES (HMS)

No major or minor concentration is available. See also Classics (CLA).

INTERDEPARTMENTAL COMMITTEE

Gordon A. Neufang (Languages), *Committee Chairperson*
K. Marre (English), Conard (Languages), Gilvary (Performing and Visual Arts), Zembaty (Philosophy), Vines (History), Martin (Religious Studies)

COURSES OF INSTRUCTION

HMS 201. THE GREEK EXPERIENCE: The development of Greek ideas and ideals in the literature, art, and archaeology of ancient Greece. Readings (in English translation) in Homer, the lyric poets, Aeschylus, Sophocles, Euripides, Aristophanes, Herodotus, Thucydides, and Plato. *3 sem. hrs.*

HMS 202. OUR ROMAN HERITAGE: Study of Roman contributions to the modern world as evidenced in the literature, art, and archaeology of ancient Rome. Readings (in English translation) in Plautus, Lucretius, Catullus, Cicero, Vergil, Horace, Livy, Ovid, and Seneca. *3 sem. hrs.*

HMS 301. CIVILIZATION: Interdisciplinary course using Sir Kenneth Clark's Civilization film series as the basis for exploring Western thought and culture from the early Middle Ages to the present; readings pertinent to Western civilization. Team-taught. *3 sem. hrs.*

HMS 395. CONTEMPORARY INTELLECTUAL TRENDS, EUROPE: Multi-disciplinary course in art, film, literature, music, and philosophy, concentrating on the post-World War II period and contemporary European intellectual trends. *6 sem. hrs.*

INTERDISCIPLINARY STUDIES (ASI)

The College of Arts and Sciences constantly strives to present significant, innovative learning experiences to its students. Courses and programs or activities that are interdisciplinary or multidisciplinary and therefore not offered through the traditional department structure are possible through authorization by the Academic Affairs Committee of the College.

All ASI credit applies toward the student's general elective requirements, but a student may petition the chairperson of a department to apply credit to specific departmental requirements.

Additional information is available in the Office of the Dean of the College of Arts and Sciences.

COURSES OF INSTRUCTION

ASI 198. HONORS SOCIAL SCIENCE SEMINAR: Interdisciplinary study of a contemporary topic that has been the focus of considerable investigation by at least two social science disciplines. Required of and restricted to freshmen enrolled in the University Honors Program. Prerequisite: Permission of program director. *3 sem. hrs.*

ASI 201. PERSONAL VALUE DEVELOPMENT: Exploration of the conceptual framework of value development. Application of concepts in such personal decision making as educational and career planning, developing satisfying personal relationships, and using time productively. *2 sem. hrs.*

ASI 210M. TO BE THE CHURCH: A course with the pastoral orientation of recognizing and identifying the faith-stance of a Catholic Christian in the modern world. *1 sem. hr.*

ASI 214. DRAMATIC KINESICS IN A FOREIGN LANGUAGE: Corrective work in foreign language sound and gesticulatory patterns accomplished by enacting scenes from a play in the language. May be repeated in one language in successive stages of difficulty up to 3 sem. hrs. Registration may be retroactive. Prerequisites: Basic instruction in the language; permission of instructor. *1 sem. hr.*

ASI 228. FOCUS ON WOMEN: Interdisciplinary seminar on the changing roles and status of women. Requirement for women's studies minors. May be repeated since topics change yearly. *1 sem. hr.*

ASI 299. HONORS SCIENCE SEMINAR: Examination of the nature of scientific thought, research, and experimentation in one or more of the physical and biological sciences; the relationship between society and scientific inquiry. Required of and restricted to sophomores in the University Honors Program. Prerequisite: Permission of program director. *3 sem. hrs.*

ASI 305. APPALACHIAN STUDIES: Applachian history and its influence on the present; problems of recent events; influence of local government and federal programs on the people; economic problems of underprivileged people and the future of industrial development; ecology of the region; literature, art, and music; psychology of social change and community development in the underdeveloped regions; health and mental health; problems of the Appalachian migrant. *3 sem. hrs.*

ASI 398. SPECIAL TOPICS IN INTERNATIONAL DEVELOPMENT: Study of political, philosophical, historical, and economic questions associated with developing countries. Topics determined by an interdisciplinary team. Required for the minor in international development. Second term. *3 sem. hrs.*

ASI 448. SEMINAR IN FAMILY DEVELOPMENT: Interdisciplinary examination of issues relating to family relationships, changes in family life, and the social context of family life. Required of family development minors. Prerequisite: 12 sem. hrs. completed in the minor. (Replaces ASI 399.) *1 sem. hr.*

ASI 498-499. HONORS THESIS: Selection, design, investigation, and completion of an independent, original research thesis under the guidance of a faculty research director. Restricted to students in the University Honors Program with permission of the director of the program. *6 sem. hrs.*

INTERNATIONAL STUDIES (INS)

International studies is a multidisciplinary major designed to meet the needs of students interested in acquiring a broadly based international perspective for eventual careers in government service, international business, foreign area studies, international law, secondary school teaching, and self-enrichment. The curriculum includes a core of required courses, an intensive regional concentration (Western Europe, Eastern Europe, or Latin America), a foreign language requirement, and additional hours of course work drawn from the multidisciplinary elective pool.

Majors are strongly encouraged to participate in the Interdepartmental Summer Study Abroad Program or the Department of Languages' Summer Program or other accredited study abroad programs.

A minor is available only in International Development Studies.

PROGRAM—A9: BACHELOR OF ARTS WITH A MAJOR IN INTERNATIONAL STUDIES (INS)[1]

	Semester Hours
Requirements for the major	66
Humanities	18
Natural science	7
Mathematics	3
Philosophy and/or religious studies	12
Communication skills (ENG 101, 102, SPE 101)	3-9
Social and behavioral science	12
General education and academic electives to total at least	120

[1]See also Distribution Table for Bachelor of Arts Programs and Chapter V for General Education Requirements.

With the approval of the advisor, a major in international studies may utilize courses in the International Studies Program to satisfy some of the University requirements.

The major in international studies consists of a minimum of 66 semester hours of coursework distributed as follows:

Required courses (27 semester hours)
ECO 203, 204, 450
ENG 272
GEO 103
HST 102
POL 202, 410, 455

Regional concentration (21 semester hours)
Each major must select one of the following three area concentrations. This area must correspond with the foreign language chosen.
Western Europe: HST 314, 419, 421, 428; HMS 395; POL 320
USSR-Eastern Europe: HST 314, 328, 415; HMS 395; POL 321, 409
Latin America: ANT 352; ECO 460; HST 357, 482; POL 323, 457; SPN 316

Electives (12 semester hours)
The remaining 12 semester hours are to be chosen from the other two concentrations or from the following elective pool:

ANT 150, 315, 351, 406
ART 472, 473
BAI 301
ECO 461
ENG 306, 356, 357, 358
FIN 450
HST 101, 110, 306, 313, 322, 330, 335, 348, 412, 416, 420, 423, 424, 432, 436, 437, 438, 440, 482, 484
INS 495
MGT 430
MKT 440
PHL 317, 320, 323, 350, 351, 352, 353, 358, 359, 360
POL 214, 322, 325, 335, 406, 408, 437
REL 146, 201, 202, 374, 406, 463
SOC 350
Any upper-level foreign language course (French, German, Italian, Spanish, Russian)
With permission, other courses including special topics courses and independent study

Language (6-20 semester hours)
A student majoring in international studies must complete at least 6 semester hours of upper-level foreign language instruction in one of the following languages: French, German, Italian, Russian, or Spanish. Foreign language literature in translation courses do not fulfill this requirement. Also, these 6 semester hours may not duplicate upper-level foreign language courses taken to fulfill the requirement of 12 semester hours drawn from the elective pool.

Minor in International Development Studies (IND)
For students interested in the problems of development in Third World countries, a minor in international development is available. It is intended to give students the cultural, historical, and political sensitivity required for working effectively in the interest of developing countries. The minor in international development consists of 15 semester hours of course work in anthropology, history, political science, and international development. Students are encouraged to participate in an immersion experience in a Third World country.

UNDERGRADUATE CURRICULUM POLICY COMMITTEE
Margaret P. Karns, *Director, Center for International Studies*
Aaron (Strategies for Responsible Development), Bregenzer (Anthropology), Chiodo (Languages), Hadley (Economics and Finance), Johnson (Philosophy), Lapitan (Political Science), Lohmeyer (Geology), Patrouch (English), Vines (History)

COURSE OF INSTRUCTION

INS 495. INTERNATIONAL STUDIES INTERNSHIP: Practical, supervised experience with Dayton Council on World Affairs or other approved organization dealing with international affairs. Prerequisite: Permission of director. *3 sem. hrs.*

JOURNALISM (JRN)

Journalism is an area of concentration in the Department of Communication. See also requirements and courses of instruction under COM and SPE.

Students concentrating in journalism must take SPE 101, COM 120, and 30 semester hours in JRN, SPE, and COM.

A minor in political journalism is available for political science majors. The political journalism minor consists of COM 120, JRN 206, and any three of the following five courses: COM 314, COM 440, JRN 301, JRN 303, SPE 301.

COURSES OF INSTRUCTION

JRN 206. NEWSWRITING: Writing for the news media, concentrating on determining news values, developing newsgathering and newswriting techniques, and improving writing skills. Prerequisites: COM 120, typing skills. Studio fee. *3 sem. hrs.*

JRN 301. PUBLIC AFFAIRS REPORTING: Advanced reporting and newswriting. Analysis and structure of stories on all government areas. Information-gathering techniques and specialized reporting. Prerequisites: COM 120, JRN 206. *3 sem. hrs.*

JRN 303. INTERPRETATIVE AND FEATURE WRITING: Writing non-news materials: features, personality stories, columns, reviews, consumer information. New journalism. Contents and organization of feature sections. *3 sem. hrs.*

JRN 400. EDITING AND COPYREADING: Newspaper copy editing, with emphasis on language usage, editing symbols, newspaper style, headline and caption writing. Extensive work on computerized editing system. Prerequisites: JRN 206, typing skills. Studio fee. *3 sem. hrs.*

JRN 404. NEWSPAPER MANAGEMENT PROBLEMS: Noneditorial operations—problems of business, circulation, advertising, and printing departments as they affect operations of the news department. Special emphasis on small dailies and weeklies. *3 sem. hrs.*

JRN 410. PUBLICATION DESIGN: Layout and design of newspapers, newsletters, brochures, and magazines. Type selection, copy preparation, cost appraisal, printing methods. Studio fee. *3 sem. hrs.*

JRN 420. SPECIAL TOPICS IN JOURNALISM: Concentrated study in specialized areas of journalism. May be repeated with change of topic. *3-6 sem. hrs.*

LANGUAGES (LNG)

The Department of Languages offers instruction in modern languages (French, German, Italian, Russian, and Spanish) and in classical languages (Greek and Latin). The department also offers courses in classics, taught in English. (See CLA. See also HMS.)

Modern languages are increasingly attractive in double majors because the combination of foreign languages with social work, business, or other specialized training enhances one's opportunities of employment. The major requirements in the second fields are determined by the respective departments.

Greek and Latin provide significant background for students interested in anthropology, English, modern foreign languages, history, music, philosophy, and theology. The major in classical languages provides a widely recognized and respected humanistic education, and it develops analytical skills and linguistic mastery important for students intending further study in law, theology, education, journalism, and business.

Every major in and prospective teacher of modern languages is urged to spend at least a summer traveling and studying in a country in which the citizens speak the language the student is studying. The Department of Languages conducts one-month summer programs abroad, usually in Paris, Madrid, and Marburg (see courses FRN 470 and SPN 470), and the College of Arts and Sciences conducts a three-month Interdepartmental Summer Studies Abroad program. (See Chapter X.)

Advanced placement based on high school study or study in foreign countries is regularly awarded. In general, one year of high school language study is equal to one term of study at the University; four years of high school language study normally prepares one for upper-level (300-400) language courses. Since language skills tend to be forgotten when unused, a student who resumes language study after a considerable lapse may wish to enter a lower level than that indicated above. The Department provides upon request guidance in selecting the correct course level. Furthermore, the Department recommends that students continue the languages begun in high school in order to achieve a useful level of skill.

A language major may arrange courses, with the approval of the departmental chairperson, in one of these three forms of concentration:

1. Major in a single language, requiring 24 semester hours in upper-level (300-400) courses;
2. Composite major, requiring a minimum of 20 semester hours in each of two languages (any level);
3. Composite major in classical languages (Greek and Latin), which differs from the preceding composite major by viewing classical antiquity as a whole and by giving attention to cultural and literary interconnections in the Graeco-Roman world. It requires the following:

a. minimum of 24 semester hours of courses in Greek or Latin at the 300-400 level;

b. minimum of 12 semester hours of courses in the other classical language at any level.

Students with a composite major arrangement should begin their second language no later than the fourth term.

A minor in a single language requires 12 semester hours at the 300-400 level.

NOTE: The Department of Languages advises all students that, since learning a foreign language involves the progressive accumulation of skills and knowledge—especially in elementary, intermediate, and advanced communication skills courses (conversation, composition, etc.)—regular participation in class is vital to success in foreign language courses.

PROGRAM—A10: BACHELOR OF ARTS WITH A MAJOR IN LANGUAGES (LNG)[1]

	Semester Hours
Languages	24-40
Communication skills	3-9
Humanities[2]	18
Philosophy and/or religious studies	12
Natural science	7
Mathematics	3
Social and behavioral science	12
General education courses and academic electives to total at least	120

[1]See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

[2]It is recommended that students take any courses, such as the history of a particular country or period, that will strengthen their grasp of the cultural background of the languages they are studying. A good student with a background in two languages may be permitted to take as little as one term of a new language for reasons approved by the departmental chairperson. In general, however, any additional language should be taken for at least two terms.

FACULTY

Robert C. Conard, *Chairperson*
Professors: Conard, Lazarus, McKenzie
Associate Professors: Neufang, Romaguera
Assistant Professors: Castello-Lamas, Chiodo, Galeano, Greely, Lowry

NOTE: For additional language courses, see ASI 214.

FRENCH (FRN)

COURSES OF INSTRUCTION

FRN 300 or 301 or equivalent is a prerequisite for all other upper-level courses conducted in French. Most 300-400 level courses in French are offered on a two-year rotating cycle. For advanced placement see under LNG.

FRN 103-104. ELEMENTARY FRENCH I, II: Basic elements of the French language with emphasis on audio-oral skills. Language laboratory required. No prerequisite for FRN 103. *4 sem. hrs. each*

FRN 199. FRENCH LANGUAGE TABLE: Weekly informal practice in conversation. Faculty supervised. All speakers of French welcome as guests. Repeatable up to 3 sem. hrs. Does not count toward major or minor. Grade option 2 only. Credit granted (S) solely on basis of attendance; maximum 2 absences permitted. Prerequisite: FRN 103 or equivalent proficiency. *1 sem. hr.*

FRN 201-202. INTERMEDIATE FRENCH I, II: Intensive development of French grammar, selected readings in French literature or culture, practice in spoken and written language skills. Language laboratory required. *3 sem. hrs. each*

FRN 300-301. FRENCH CONVERSATION: Intensive drill to develop communication skills: vocabulary development, pattern drills, and use of idioms in discussions centered on French life and culture. May be taken in either sequence. One term required for majors and minors. FRN 300 or 301 or equivalent is a prerequisite for all other upper-level courses conducted in French. *3 sem. hrs.*

FRN 302-303. FRENCH COMPOSITION I, II: Practice in composition on topics dealing with French life and culture. Systematic vocabulary enrichment, refinement of grammar, and assimilation of stylistic patterns. Emphasis on correct writing, creativity, and initiation into the concept of style in French prose. May be taken in either sequence. *3 sem. hrs. each*

FRN 305. EXPLICATION DE TEXTES: Introduction to method of analyzing literary texts, both prose and poetry. Elements of French versification. Recommended for all French majors and prospective teachers. *3 sem. hrs.*

FRN 306. FRENCH PHONETICS AND DICTION: Formation of the sounds of French, rules of pronunciation, use of phonetic transcription, practical exercises in interpretive reading. Recommended for French majors and required for prospective teachers. *3 sem. hrs.*

FRN 307. FRENCH CULTURE AND CIVILIZATION: Introduction to the history of French civilization with emphasis on the arts and life in each major cultural period. Recommended for all French majors and minors. *3 sem. hrs.*

FRN 310. INTRODUCTION TO COMMERCIAL FRENCH: Introduction to French business and the French position in international trade. Basic vocabulary of the office and the world of trade, introduction to formal correspondence and transactions. *3 sem. hrs.*

FRN 313-314. SURVEY OF FRENCH LITERATURE I, II: Major texts, trends, authors from the Middle Ages to the present, showing influences and continuity. Lectures, discussions, oral and written reports. Recommended for all French majors and prospective teachers. *3 sem. hrs. each*

FRN 350. FRENCH LITERATURE IN TRANSLATION: Course to acquaint nonmajors and nonminors with major French writers and literary movements. Conducted in English. Repeatable when subtitle and content change. *3 sem. hrs.*

FRN 405. FRENCH LITERATURE: Lectures and discussions in French in specialized areas such as medieval French literature, French Renaissance, French classicism, the Enlightenment, 20th-century French poetry, French drama, and the French novel. Repeatable when subtitle and content change. *3 sem. hrs.*

FRN 410. ADVANCED COMMERCIAL FRENCH: Intensive study of business in France. Emphasis on specialized vocabulary, style, and syntax in commercial correspondence and accurate translation of current documents related to business and publicity. Prerequisites: FRN 302, 303, and 310 or equivalent. *3 sem. hrs.*

FRN 470. STUDY ABROAD: Intensive study in a foreign country whose everyday language is French, treating the culture and civilization of the country. Conducted in French. Available only during the summer session. Repeatable when subtitle and content change. *3 sem. hrs.*

FRN 491. INDEPENDENT STUDY: Independent research project under the guidance of an instructor. Admission to project and number of semester hours require approval of the chairperson. *1-3 sem. hrs.*

GERMAN (GER)

COURSES OF INSTRUCTION

GER 103, 104, 201, and 202 or their equivalent are prerequisite for all upper-level German courses. For advanced placement see under LNG.

GER 100-101. GUTEN TAG I, II: Beginning conversational German based on a 26-film motion picture series. Basic vocabulary and expressions through dialogues and drills in the language of everyday situations. Grammar instruction minimal; no reading taught. GER 100-101 is not a substitute for GER 103-104 and does not permit one to enter GER 201. *2 sem. hrs. each*

GER 103-104. ELEMENTARY GERMAN I, II: Basic elements of German language with emphasis on pronunciation, speaking, reading, and grammar. Language laboratory required. No prerequisite for GER 103. *4 sem. hrs. each*

GER 199. GERMAN LANGUAGE TABLE: Weekly informal practice in conversation. Faculty supervised. All speakers of German welcome as guests. Repeatable up to 3 sem. hrs. Does not count toward major or minor. Grade option 2 only. Credit granted (S) solely on basis of attendance; maximum 2 absences permitted. Prerequisite: GER 103 or equivalent proficiency. *1 sem. hr.*

GER 201. INTERMEDIATE GERMAN I: Systematic grammar review. Increased use of the language in written exercises and classroom discussions based on readings. Prerequisite: GER 104 or equivalent. *3 sem. hrs.*

GER 202. INTERMEDIATE GERMAN II: Continuation of GER 201. Exposure to the development of German civilization and culture. Reading, conversation, and composition. Prerequisite: GER 201 or equivalent. *3 sem. hrs.*

GER 304-305. SPOKEN GERMAN: Intensive drill to develop communication skills: vocabulary development, pattern drills, and use of idioms in discussions and oral reports centered on German daily life and culture. May be taken in either sequence. One term required for majors and minors. *3 sem. hrs. each*

GER 306. GERMAN COMPOSITION I: Practice in writing German based on description of events in everyday German life and including personal and business letters. Short weekly written assignments build vocabulary and control of idioms. *3 sem. hrs.*

GER 307. GERMAN COMPOSITION II: Continuing practice in German composition including vocabulary building and introduction to the concept of style. Prerequisite: GER 306 or permission of instructor. *3 sem. hrs.*

GER 310. GERMAN CULTURE AND CIVILIZATION: Introduction to German culture and civilization with emphasis on the arts, intellectual developments, and life in various periods of German history. Conducted in German. Recommended for all majors and minors. *3 sem. hrs.*

GER 313. SURVEY OF GERMAN LITERATURE I: German literature and its development from 750 A.D. to the end of the 17th century. Study of exemplary works and literary movements. *3 sem. hrs.*

GER 314. SURVEY OF GERMAN LITERATURE II: German literature from the 18th century to the present. Study of exemplary literary works and movements. *3 sem. hrs.*

GER 350. GERMAN LITERATURE IN TRANSLATION: Course to acquaint nonmajors and nonminors with major German writers and literary movements. Conducted in English. Repeatable when subtitle and content change. *3 sem. hrs.*

GER 440. GERMAN LITERATURE: Lectures and discussions in German in such specialized areas as Medieval lyric, Romanticism, 20th-century novel, modern drama, and individual authors. Repeatable when subtitle and content change. *3 sem. hrs.*

GER 491. INDEPENDENT STUDY: Independent research project under the guidance of an instructor. Admission to project and number of sem. hrs. require approval of chairperson. *1-3 sem. hrs.*

GREEK (GRK)

COURSES OF INSTRUCTION

GRK 103-104. ELEMENTARY GREEK I, II: Development of a foundation for reading classical Greek. No prerequisite for GRK 103. *4 sem. hrs. each*

GRK 201. INTERMEDIATE GREEK: Readings from Plato, Homer, and Euripides selected both for their literary merit and for their value in improving reading skills. Prerequisite: GRK 104. *3 sem. hrs.*

GRK 350. GREEK LITERATURE: Advanced readings in a particular author or genre (epic, drama, history, philosophy). Repeatable when subtitle and content change. *3 sem. hrs.*

ITALIAN (ITA)

COURSES OF INSTRUCTION

ITA 103, 104, 201, and 202 or their equivalent are prerequisite for all upper-level Italian courses. For advanced placement see under LNG.

ITA 103-104. ELEMENTARY ITALIAN: Introduction to listening, speaking, reading, and writing in Italian. Dictations, pronunciation drills, grammar exercises, structured and unstructured conversations, and reading and writing exercises. The class is conducted primarily in Italian. *4 sem. hrs. each*

ITA 199. ITALIAN LANGUAGE TABLE: Weekly informal practice in conversation. Faculty supervised. All speakers of Italian welcome as guests. Repeatable up to 3 sem. hrs. Does not count toward minor. Grade option 2 only. Credit granted (S) solely on basis of attendance; maximum 2 absences permitted. Prerequisite: ITA 103 or equivalent proficiency. *1 sem. hr.*

ITA 201-202. INTERMEDIATE ITALIAN: Development of listening, speaking, reading, and writing skills. Conversation practice, oral reports, reading assignments, composition assignments, and grammar exercises. The class is conducted in Italian. *3 sem. hrs. each*

ITA 301-302. SURVEY OF ITALIAN LITERATURE: Italian literature from its beginnings in the 13th century to the present. Principal writers and literary trends; the techniques of literary analysis. Lectures, discussions, readings, and papers are in Italian. *3 sem. hrs. each*

ITA 307-308. COMMUNICATING IN ITALIAN: Developing the ability to speak and write in Italian at an advanced level. Building vocabulary, learning correct idiomatic usage, increasing fluency, and improving syntax and style. The class is conducted in Italian. *3 sem. hrs. each*

ITA 315-316. ITALIAN CULTURE AND CIVILIZATION I, II: Survey of the major historical and cultural events in Italy from the Middle Ages to the present. All readings, lectures, discussions, reports, and tests are in Italian. *3 sem. hrs. each*

ITA 491. INDEPENDENT STUDY: Independent research project under the guidance of an instructor. Admission to project and number of sem. hrs. require approval of chairperson. *1-3 sem. hrs.*

LATIN (LAT)

COURSES OF INSTRUCTION

LAT 103-104. ELEMENTARY LATIN I, II: Development of a foundation for reading classical Latin. No prerequisite for LAT 103. *4 sem. hrs. each*

LAT 201-202. INTERMEDIATE LATIN I, II: Systematic review of grammar, exercises in vocabulary development, readings from Caesar, Cicero, Vergil, or Ovid. Prerequisite: LAT 104. *3 sem. hrs. each*

LAT 301. LATIN COMPOSITION AND SYNTAX: Practice in writing Latin, for enrichment of vocabulary, refinement of grammar, and control of major Latin prose styles. *3 sem. hrs.*

LAT 350. LATIN LITERATURE: Advanced readings in a particular author or genre (epic, drama, history, philosophy). Repeatable when subtitle and content change. *3 sem. hrs.*

LAT 491. INDEPENDENT STUDY: Independent research project under the guidance of an instructor. Admission to project and number of semester hours require approval of chairperson. *1-3 sem hrs.*

RUSSIAN (RUS)

COURSES OF INSTRUCTION

For advanced placement see under LNG.

RUS 103-104. ELEMENTARY RUSSIAN I, II: Familiarization of the beginner with the essentials of the spoken and written language. Vocabulary practice, simple sentence structure, conversational drills, and reading; stress on pronunciation and handwriting. No prerequisite for RUS 103. *4 sem. hrs. each*

RUS 199. RUSSIAN LANGUAGE TABLE: Weekly informal practice in conversation. Faculty supervised. All speakers of Russian welcome as guests. Repeatable up to 3 sem. hrs. Does not count toward major or minor. Grade option 2 only. Credit granted (S) solely on basis of attendance; maximum 2 absences permitted. Prerequisite: RUS 103 or equivalent proficiency. *1 sem. hr.*

RUS 201-202. INTERMEDIATE RUSSIAN I, II: Review of the essentials of grammar, intensive conversation and comprehension exercises, reading of graded modern and contemporary prose and poetry. Prerequisite: RUS 104 or equivalent. *3 sem. hrs. each*

RUS 301-302. SPOKEN RUSSIAN: Vocabulary development, pattern drills, and the use of idioms in discussion and oral reports centered on Russian life and culture. May be taken in either sequence. Prerequisite: RUS 202 or equivalent. *3 sem. hrs. each*

RUS 304. RUSSIAN COMPOSITION: Practice in composition on topics dealing with Russian life and culture; personal and business letters. Short weekly assignments to build vocabulary and control of idioms. Prerequisite: RUS 202. *3 sem. hrs.*

RUS 307. SURVEY OF RUSSIAN LITERATURE: Russian literature and its development during the 19th and 20th centuries. Study of exemplary works and literary movements. Prerequisite: RUS 202. *3 sem. hrs.*

RUS 491. INDEPENDENT STUDY: Independent study under the guidance of an instructor. Admission to course and number of sem. hrs. require approval of chairperson. Repeatable when content changes. Maximum total 6 sem. hrs. *1-6 sem. hrs.*

SPANISH (SPN)

COURSES OF INSTRUCTION

SPN 103, 104, 201, and 202 or their equivalent are prerequisites for SPN 305 or 306. SPN 305 or 306 or equivalent is a prerequisite for all other upper-level courses conducted in Spanish. For advanced placement see under LNG.

SPN 103-104. ELEMENTARY SPANISH I, II: Development of a foundation for understanding, speaking, reading, and writing Spanish. Language laboratory required. No prerequisite for SPN 103. *4 sem. hrs. each*

SPN 199. SPANISH LANGUAGE TABLE: Weekly informal practice in conversation. Faculty supervised. All speakers of Spanish welcome as guests. Repeatable up to 3 sem. hrs. Grade option 2 only. Does not count toward major or minor. Credit granted (S) solely on basis of attendance; maximum 2 absences permitted. Prerequisite: SPN 103 or equivalent proficiency. *1 sem. hr.*

SPN 201-202. INTERMEDIATE SPANISH I, II: Intensive development of the basic principles of Spanish through writing and conversation, stressing fluency. Language laboratory required. *3 sem. hrs. each*

SPN 301-302. SPANISH LITERATURE I, II: Survey of Spanish literature. Recommended for majors and prospective teachers. *3 sem. hrs. each*

SPN 305-306. SPOKEN SPANISH: Development of fluency in the vocabulary and idioms of the spoken language through discussion of topics related to contemporary living in the Hispanic world. May be taken in either sequence. One term required for majors and minors. SPN 305 or 306 or equivalent is a prerequisite for all other upper-level courses conducted in Spanish. *3 sem. hrs. each*

SPN 307-308. SPANISH COMPOSITION: Private and commercial correspondence as basis for developing a facility to write clearly in Spanish. May be taken in either sequence. Recommended for majors and prospective teachers. *3 sem. hrs. each*

SPN 313. EXPLICACION DE TEXTOS: Introduction to the methods of analyzing literary texts by observing and analyzing Spanish prose and poetry. Elements of Spanish versification. Recommended for Spanish majors and prospective teachers. Conducted in Spanish. *3 sem. hrs.*

SPN 315. SPANISH CIVILIZATION AND CULTURE: Readings and discussions on the historical, social, political, and cultural phenomena of Spain. Conducted in Spanish. *3 sem. hrs.*

SPN 316. IBERO-AMERICAN CIVILIZATION AND CULTURE: Readings and discussions on the historical, social, political, and cultural phenomena of Ibero-America. Conducted in Spanish. *3 sem. hrs.*

SPN 350. HISPANIC LITERATURE IN TRANSLATION: Course to acquaint nonmajors and nonminors with major Spanish and Spanish-American writers and literary movements. Conducted in English. Repeatable when subtitle and content change. *3 sem. hrs.*

SPN 407-408. SPANISH LITERATURE OF THE 20TH CENTURY I, II: Study of the principal Spanish and Spanish-American authors and works of the present century. Lectures, discussions, and reports on assigned readings. Conducted in Spanish. *3 sem. hrs. each*

SPN 420. SPANISH-AMERICAN LITERATURE: Lectures and discussions in Spanish in such specialized areas as Spanish-American colonial literature, contemporary Spanish-American novel, Spanish-American poetry, Spanish-American prose. Repeatable when subtitle and content change. *3 sem. hrs.*

SPN 440. SPANISH LITERATURE: Lectures and discussions in Spanish in such specialized areas as Medieval Spanish literature, Spanish drama of the Golden Age, Cervantes, 19th-century Spanish novel, contemporary Spanish drama. Repeatable when subtitle and content change. *3 sem. hrs.*

SPN 470. STUDY ABROAD: Intensive study in a foreign country whose everyday language is Spanish, treating the culture and civilization of the country. Conducted in Spanish. Available only during the summer session. Repeatable when subtitle and content change. *3 sem. hrs.*

SPN 491. INDEPENDENT STUDY: Independent research project under the guidance of an instructor. Admission to project and number of semester hours require approval of chairperson. *1-3 sem. hrs.*

MATHEMATICS (MTH)

PROGRAM—A11: BACHELOR OF ARTS WITH A MAJOR IN MATHEMATICS (MTA)

A. MAJOR FIELD—Qualified students elect MTH 118 upon entering; those with weaker backgrounds elect MTH 101. Upon completion of MTH 118, MTH 119, and MTH 218 (or demonstration of proficiency) a student will, with the approval of the department, elect 9 upper-level courses including MTH 302, MTH 319, MTH 361, and MTH 430. Students with strong mathematical ability are encouraged to satisfy these requirements in the departmental honors program. In the senior year, mathematics majors in the honors program will be expected to enroll in one graduate course. Honors students are invited to inquire about the five-year master's degree program.

B. ADDITIONAL REQUIREMENTS[1]

1. Science—7 sem. hrs. of course work, 4 of which must be in an approved natural science with an accompanying laboratory. Majors are strongly advised to learn computer programming.
2. Social and behavioral science—12 sem. hrs.
3. Humanities—18 sem. hrs.
4. Philosophy and/or religious studies—12 sem. hrs.
5. Demonstration of proficiency or successful completion of ENG 101, ENG 102, and SPE 101.
6. General education courses—30 sem. hrs. These courses may be counted for other requirements where applicable.
7. Additional courses to satisfy graduation requirements for all Bachelor of Arts programs.

[1]See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

PROGRAM—S8: BACHELOR OF SCIENCE WITH A MAJOR IN MATHEMATICS (MTH)

A. MAJOR FIELD—Qualified students elect MTH 118 upon entering; those with weaker backgrounds elect MTH 101. Upon completion of MTH 118, MTH 119, and MTH 218 (or demonstration of proficiency) a student will, with the approval of the department, elect 9 upper-level courses including MTH 302, MTH 319, MTH 361, and MTH 430. Students with strong mathematical ability are encouraged to satisfy these requirements in the departmental honors program. In the senior year, mathematics majors in the honors program will be expected to enroll in one graduate course. Honors students are invited to inquire about the five-year master's program.

B. MINOR FIELD—The requirement for the minor normally consists of 12 semester hours of 300-400 level courses. The chosen field may require prerequisite knowledge that could extend the total number of semester hours beyond

12. The choice of a minor and the supporting course work must be approved by the student's advisor.

C. ADDITIONAL REQUIREMENTS[1]

1. Science—minimum of 16 sem. hrs., including at least 1 sem. hr. of laboratory. This requirement is fulfilled by electing the sequence of basic courses in two approved natural sciences (physics, chemistry, biology, geology).
2. Social and behavioral science—6 sem. hrs.
3. Humanities—9 sem. hrs.
4. Philosophy and/or religious studies—12 sem. hrs.
5. Communication skills—All students are required to complete successfully or demonstrate proficiency in ENG 101, ENG 102, and SPE 101. In addition, all majors are required to take an approved computer science course. Those looking forward to research are strongly advised to elect a foreign language.
6. General education courses—30 sem. hrs. These courses may be counted for other requirements where applicable.
7. Additional courses to satisfy graduation requirements for all Bachelor of Science programs.

[1]Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

More detailed information will be provided by the department upon request. All majors are encouraged to cooperate closely with their departmental advisors in planning their course work. Honors students may wish to follow a five-year program leading to a master's degree in mathematics.

FACULTY

John W. McCloskey, *Chairperson*
Distinguished Service Professor: Schraut
Professors: McCloskey, Peterson, Rice, Stander, Steinlage
Associate Professors: Back, Eloe, Gantner, Gorton, Mushenheim, Shaughnessy
Assistant Professors: Friel, Higgins, Islam, Kauflin, Mashburn
Instructor: Saintignon

COURSES OF INSTRUCTION

MTH 101. PRECALCULUS MATHEMATICS: A review of topics from algebra and trigonometry including polynomials, functions and graphs, exponential and logarithmic functions, trigonometric functions and identities. *4 sem. hrs.*

MTH 103. MATHEMATICS AND ITS CULTURAL ASPECTS: Introduction to basic concepts of algebra, geometry, probability and statistics. Also, depending on the needs and interests of the class, such topics as logic, set theory, abstract mathematical systems, and intuitive topology. Prerequisite: One year of high school mathematics. *3 sem. hrs.*

MTH 107. FUNDAMENTALS OF MATHEMATICS: Sets, functions and graphs, exponents, polynomials and algebraic equations, systems of equations. Prerequisite: One year of high school algebra. *3 sem. hrs.*

MTH 110. QUANTITATIVE ANALYSIS FOR BUSINESS I: Topics from mathematics used in business, including systems of equations, inequalities, matrix algebra, linear programming, logarithms. Prerequisite: MTH 107 or sufficient college preparatory mathematics. *3 sem. hrs.*

MTH 111. QUANTITATIVE ANALYSIS FOR BUSINESS II: Continuation of MTH 110. Compound interest and annuities, fundamental concepts and applications of differential and integral calculus. Prerequisite: MTH 110 or sufficient college preparatory mathematics. *3 sem. hrs.*

MTH 112. INTRODUCTORY CALCULUS I: Basic coordinate geometry, differentiation of algebraic functions with applications to geometry. Indefinite and definite integrals with applications to the life and physical sciences. Prerequisite: MTH 101 or equivalent. Intended for students in the life and social sciences. *3 sem. hrs.*

MTH 113. INTRODUCTORY CALCULUS II: Differentiation and integration of exponential and logarithmic functions with applications to life sciences and to solution of applied differential equations with variables separable. Differentiation and integration of trigonometric functions with applications. Use of tables of integrals. Introduction to vector calculus, partial derivatives, and multiple integrals. Prerequisite: MTH 112. *3 sem. hrs.*

MTH 118. ANALYTIC GEOMETRY AND CALCULUS I: Introduction to the differential and integral calculus; differentiation and integration of algebraic and transcendental functions with applications to science and engineering. Prerequisite: MTH 101 or equivalent. *2-4 sem. hrs.*

MTH 119. ANALYTIC GEOMETRY AND CALCULUS II: Continuation of MTH 118. Conic sections, techniques of integration with applications to science and engineering, infinite series, indeterminate forms, Taylor's theorem. Prerequisite: MTH 118. *2-4 sem. hrs.*

MTH 204. MATHEMATICAL CONCEPTS I: Concepts necessary for an understanding of the structure of arithmetic and its algorithms. Prerequisites: One year of high school algebra and one year of high school geometry. *3 sem. hrs.*

MTH 205. MATHEMATICAL CONCEPTS II: Recommended for students in elementary education who seek a strong background in the mathematical concepts discussed in grades 4-8. Topics include the metric system, probability and statistics, the use of calculators, and elementary geometry. *3 sem. hrs.*

MTH 207. STATISTICAL METHODS FOR THE BEHAVIORAL SCIENCES: Measures of central tendency and variability, frequency distributions, probability, the binomial distribution, normal distribution, inferences from sample means, curve fitting, correlation and regression. Prerequisite: Two years of high school algebra. *3 sem. hrs.*

MTH 215. BASIC STATISTICS FOR THE BIOMEDICAL SCIENCES: Probability, the binomial distribution, normal distribution, confidence intervals, tests of hypotheses, proportions, Chi-square test, F-distribution, regression and correlation. Prerequisite: MTH 113 or consent of instructor. *3 sem. hrs.*

MTH 218. ANALYTIC GEOMETRY AND CALCULUS III: Continuation of MTH 119. Multi-variable calculus, solid analytic geometry, partial differentiation, multiple integrals. Prerequisite: MTH 119. *4 sem. hrs.*

MTH 219. APPLIED DIFFERENTIAL EQUATIONS: First order equations, linear equations with constant coefficients, systems of equations, the Laplace transform, power series solutions, numerical methods, applications. Prerequisite: MTH 218. Credit will not be given for both MTH 219 and MTH 319. Mathematics majors are expected to take MTH 319. *3 sem. hrs.*

MTH 302. LINEAR ALGEBRA AND MATRICES: Fundamental concepts of vector spaces, determinants, linear transformations, matrices, inner product spaces and eigenvectors. Prerequisite: MTH 218. Offered each term. *3 sem. hrs.*

MTH 302H. HONORS LINEAR ALGEBRA AND MATRICES: Same material as MTH 302, with additional topics for enrichment covered in one extra hour per week. Prerequisites: MTH 218 and permission of the instructor. Second term each year. *4 sem. hrs.*

MTH 319. ORDINARY DIFFERENTIAL EQUATIONS AND LINEAR SYSTEMS: First order equations, theory of linear equations and existence, uniqueness of solutions of initial value problems, systems of first order equations, Laplace transforms, and power series methods. Prerequisite: MTH 302. Credit will not be given for both MTH 219 and MTH 319. Mathematics majors take MTH 319. First term each year. *3 sem. hrs.*

MTH 342. SET THEORY: Elementary set theory including relations, functions, indexed families, denumerable and nondenumerable sets, cardinal and ordinal arithmetic, Zorn's Lemma, the well-ordering principle and transfinite induction. Prerequisite: MTH 218 or permission of instructor. Second term, alternate years. *3 sem. hrs.*

MTH 361. INTRODUCTION TO ABSTRACT ALGEBRA: Fundamental concepts of groups, rings, integral domains and fields. Prerequisite: MTH 218. First and second terms each year. *3 sem. hrs.*

MTH 361H. HONORS ABSTRACT ALGEBRA: Same material as MTH 361, with additional topics for enrichment covered in one extra hour per week. Prerequisites: MTH 218 and permission of the instructor. First term each year. *4 sem. hrs.*

MTH 367. STATISTICAL METHODS I: Probability distributions including binomial, hyper-geometric, Poisson, and normal. Monte Carlo methods, computer simulation, estimation of population mean and standard deviation. Confidence intervals and tests of hypotheses using t-, Chi-square, and F-statistics. Prerequisite: MTH 113 or 218. Mathematics majors enroll in MTH 411 instead of MTH 367. *3 sem. hrs.*

MTH 368. STATISTICAL METHODS II: Distribution-free methods including rank tests, sign tests, and Kolmogorov-Smirnov test. Method of least squares, correlation, linear regression, analysis of variance. Design of experiments. Prerequisite: MTH 367. Mathematics majors enroll in MTH 412 instead of MTH 368. *3 sem. hrs.*

MTH 370. INTRODUCTION TO HIGHER GEOMETRY: Projective, affine, and hyperbolic geometries using synthetic and/or analytic techniques. Prerequisite: MTH 218 or permission of instructor. Second term, alternate years. *3 sem. hrs.*

MTH 376. NUMBER THEORY: Topics include Diophantine equations, Chinese Remainder theorem, Mobius inversion formula, quadratic residues and the Law of Quadratic Reciprocity, Gaussian integers, and integral quaternions. Prerequisite: MTH 218. First term, alternate years. *3 sem. hrs.*

MTH 395. DEVELOPMENT OF MATHEMATICAL IDEAS: The evolution of mathematical ideas and techniques from ancient times to the present with emphasis on the Greek era. Famous men and famous problems. Chronological outline of mathematics in each of its branches along with applications. Prerequisite: MTH 112 or MTH 118 or permission of instructor. First term, alternate years. *3 sem. hrs.*

MTH 403. BOUNDARY VALUE PROBLEMS: Introduction to the Sturm Liouville problem. Fourier trigonometric series, Fourier integrals, Bessel functions, and Legendre polynomials. The heat equation, wave equation, and Laplace's equation with applications. Solutions by the product method. Prerequisite: MTH 219 or 319. First term each year. *3 sem. hrs.*

MTH 404. APPLIED COMPLEX VARIABLES: Functions of a complex variable, conformal mapping, integration in the complex plane. Laurent series and residue theory. Prerequisite: MTH 219 or 319. Mathematics majors enroll in MTH 431 instead of MTH 404. Second term each year. *3 sem. hrs.*

MTH 411. PROBABILITY AND STATISTICS I: Mathematical probability, combinatorial methods, random variables, Bayes theorem, moments, Chebyshev's inequality, binomial, Poisson, and normal probability laws, moment-generating functions, limit theorems. Prerequisite: MTH 218. Second term each year. *3 sem. hrs.*

MTH 412. PROBABILITY AND STATISTICS II: Distribution theory, central limit theorem, random sampling, estimation of parameters including maximum likelihood, confidence intervals, the Neyman-Pearson lemma, tests of hypotheses, likelihood ratio tests, sampling from a normal population. Prerequisite: MTH 411. First term each year. *3 sem. hrs.*

MTH 413. PROBABILITY AND STATISTICS III: Statistical decision theory, partitioning of sums and squares, analysis of variance, regression on several independent variables, multiple regression approach to analysis of variance, design of experiments. Prerequisite: MTH 412. Second term each year. *3 sem. hrs.*

MTH 430. REAL ANALYSIS: Fundamental concepts of analysis: metric completeness, uniform continuity and uniform convergence; power series and interchange of limits. Prerequisite: MTH 302. First term each year. *3 sem. hrs.*

MTH 430H. HONORS REAL ANALYSIS: Same material as MTH 430, with additional topics for enrichment covered in one extra hour per week. Prerequisites: MTH 302 and permission of the instructor. First term each year. *4 sem. hrs.*

MTH 431. COMPLEX ANALYSIS: Introduction to complex analysis: analytic functions and the Cauchy integral theory; Laurent series and the calculus of residues. Optional topics may include applications of the residue theory. Prerequisite: MTH 302. Second term each year. *3 sem. hrs.*

MTH 431H. HONORS COMPLEX ANALYSIS: Same material as MTH 431, with additional topics for enrichment covered in one extra hour per week. Prerequisites: MTH 302 and permission of the instructor. Second term each year. *4 sem. hrs.*

MTH 440. INTRODUCTION TO MATHEMATICAL MODELING: Introduction to the use of mathematical techniques and results in constructing and modifying models designed to solve problems encountered in everyday life. Computer simulation and limitations thereon, dimensional analysis, scaling, and approximations at various levels. Prerequisites: MTH 219 (or 319), MTH 302, and permission of the instructor. Second term each year. *3 sem. hrs.*

MTH 441. MATHEMATICS CLINIC: Student teams will be responsible for the development or modification and testing of a mathematical model designed for a particular purpose. Faculty guidance. Prerequisites: MTH 440 and permission of the chairperson. *3 sem. hrs.*

MTH 445H. (SPECIAL TOPICS IN NAMED AREA): Lectures in specialized areas such as abstract algebra, applied mathematics, complex variables, differential forms, functional analysis, Galois theory, game theory, general topology, normed linear spaces, probability theory, real variables, topological groups. May be taken more than once for additional credit. Prerequisite: Permission of the chairperson. *1-3 sem. hrs.*

MTH 463. APPLIED LINEAR ALGEBRA: Topics include linear programming and its applications, game theory, Markov chains or linear codes and their error-correcting capabilities. Prerequisite: MTH 302. First term each year. *3 sem. hrs.*

MTH 466. APPLIED MODERN ALGEBRA: Introduction to various algebraic concepts that are applicable to computer science and related areas. Topics may include Boolean algebra and logic circuits, algebraic structures and finite state machines, groups and group codes, combinatorics and graph theory. Prerequisite: MTH 302. Second term each year. *3 sem. hrs.*

MTH 471. TOPOLOGY: Introduction to topological spaces and continuous functions including a study of separation and countability axioms and elementary properties of metric spaces, connected spaces, and compact spaces. Prerequisite: MTH 302 or permission of instructor. *3 sem. hrs.*

MTH 490. READING IN (NAMED AREA): Individual study in specialized areas carried out under the supervision of a staff member. May be taken more than once for additional credit. Prerequisite: Permission of the chairperson. *1-3 sem. hrs.*

MEDICAL TECHNOLOGY (MET)

The program leading to a Bachelor of Science with a Major in Medical Technology consists of three years of preclinical instruction at the University of Dayton with a twelve- or thirteen-month clinical course offered by Dayton area schools of medical technology. The hospital programs are accredited by the Committee on Allied Health Education and Accreditation of the American Medical Association through the National Accrediting Agency for Clinical Laboratory Sciences. Completion of the clinical program qualifies the students to take a national examination in order to become certified medical technologists.

MET majors, along with CTT and NMT majors, are undeclared Clinical Laboratory Science students for their first three full terms. All three majors follow an identical program until the second term of the sophomore year. The common curriculum is described elsewhere in this chapter under the heading of Clinical Laboratory Sciences.

PRECLINICAL YEARS

	Semester Hours
Biology core courses	21
Supporting science courses (CHM, CPS, MTH, PHY)	35
Communication skills (ENG, SPE)	12
Philosophy and/or religious studies	12
Humanities	9
Social-behavioral science	6
Management	3
Total	98

Major Concentration

Biology Core: Five courses—BIO 151, 152, 411, 425, 466, all with laboratories.

Supporting Sciences: Two mathematics courses—MTH 112, 207. (Substitute MTH 101, precalculus, if background is not suitable for MTH 112.) One computer science course—CPS 144 or 150. Five chemistry courses—CHM 123, 124, 201, 313, 314, all with laboratories. (CHM 115 must precede CHM 123 if chemistry background is inadequate.) Two physics courses—PHY 201, 204, with laboratories.

The curriculum is planned to meet the requirements of the University, the hospitals, and the NAACLS. The 98 preclinical semester hours must be completed before entering a clinical program at one of the affiliated hospitals.

CLINICAL YEAR

Acceptance into a clinical program is competitive. Students make formal applications to one or more of the affiliated schools of medical technology in the fall term of the junior year. Acceptance is based on preclinical grades, recommendation letters, motivation, and interview performance.

The course of clinical instruction covers a period of fifty-two to fifty-six consecutive weeks. The curriculum involves formal lectures, seminars, teaching laboratories, and preceptorship rotations through the various departments of the clinical laboratory. Upon completion of the clinical year, students are granted the Bachelor of Science with a Major in Medical Technology at the University's Summer Commencement exercises.

Tuition and fees for the clinical years are established by each hospital. The University will charge the Basic University Fee for Terms I and II. Students will pay their hospital tuition and fees through the University. Information on clinical year tuition and fees, class size, grading policies, dress codes, etc., is presented in the respective hospital program brochures.

PROGRAM—S9: BACHELOR OF SCIENCE WITH A MAJOR IN MEDICAL TECHNOLOGY (MET)[1]

Dept.	*No.*	*Course*	*1st Term*[2]	*2nd Term*
		See Clinical Laboratory Sciences (CLS) for first three terms of curriculum.		
		Sophomore Year		
BIO	201L	Biology Laboratory Investigations		0-3-1
BIO	425	Parasitology		3-3-4
PHY	204	Introduction to Medical Electronics		1-2-2
CHM	314	Organic Chemistry		3-3-4
HST	___	History elective[3]		3-0-3
___	___	General education requirement[4]		3-0-3
				17
		Junior Year		
BIO	411	General Microbiology	3-4-5	
BIO	466	Pathogenic Bacteriology and Immunology		3-3-4
CHM	201	Quantitative Analysis	2-2-4	
PHL	315	Medical Ethics	3-0-3	
ENG	___	English elective[5]	3-0-3	
CPS	___	Computer science elective[6]		3-0-3
MGT	305	Management and Organization		3-0-3
___	___	General education requirements		6-0-6
			15	16

[1]Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

[2]For example, 3-0-3 means 3 hrs. class, 0 hrs. lab., 3 sem. hrs. credit.

[3]Select HST 340 or 341.

[4]Some general education courses are specified in the program (e.g., PHL 315); others are to be chosen from the listing of approved courses. See Chapter V.

[5]Select from ENG 203, 204, 205, 272, 316, 370, 372, 378.

[6]Select CPS 144 or 150.

Senior Year

		Semester Hours
MET 431	Introduction to Clinical Laboratory Science	3
MET 431L	Advanced Clinical Laboratory	2
MET 432	Clinical Chemistry	4
MET 432L	Clinical Chemistry Laboratory	4
MET 433	Microbiology	4
MET 433L	Microbiology Laboratory	3
MET 434	Hematology	3
MET 434L	Hematology Laboratory	3
MET 435	Immunology	1
MET 435L	Immunology Laboratory	2
MET 437	Immunohematology	1
MET 437L	Immunohematology Laboratory	2
MET 438	Clinical Pathology	2
MET 439	Clinical Pathology Seminar	1
MET 440	Body Fluids Analysis	3
	Total	38

FACULTY

Charles J. Chantell, *University Program Director*
Clinical Professors: Abramson, Bylsma, Van der Hoeven
Clinical Assistant Professors: Columbus, Gilleland, Martin

COURSES OF INSTRUCTION

The courses taken during the first three years at the University of Dayton, listed under Program S-9, are described under the individual departments. The senior year is conducted at St. Elizabeth Medical Center, Good Samaritan Hospital, or Kettering Medical Center, all in the Dayton area.

MET 431. INTRODUCTION TO CLINICAL LABORATORY SCIENCE: Study of advanced methodology and instrumentation, which may include computer applications, data management, research data collection, and statistical analysis. *3 sem. hrs.*

MET 431L. ADVANCED CLINICAL LABORATORY: Laboratory manipulations to accompany MET 431. *2 sem. hrs.*

MET 432. CLINICAL CHEMISTRY: Study of human physiological chemistry with application of analytical techniques to the examination of body fluids and tissues. *4 sem. hrs.*

MET 432L. CLINICAL CHEMISTRY LABORATORY: Laboratory manipulations to accompany MET 432. *4 sem. hrs.*

MET 433. MICROBIOLOGY: Study of microorganisms found in human infection, their isolation/identification and prophylaxis. Included are bacteria, fungi, parasites, and viruses. *4 sem. hrs.*

MET 433L. MICROBIOLOGY LABORATORY: Laboratory manipulations to accompany MET 433. *3 sem. hrs.*

MET 434. HEMATOLOGY: Instruction in the morphology of the blood and blood-forming tissues. *3 sem. hrs.*

MET 434L. HEMATOLOGY LABORATORY: Laboratory manipulations to accompany MET 434. *3 sem. hrs.*

MET 435. IMMUNOLOGY: Study of the immune system, in particular antigen-antibody reaction in vitro. *1 sem. hr.*

MET 435L. IMMUNOLOGY LABORATORY: Laboratory manipulations to accompany MET 435. *2 sem. hrs.*

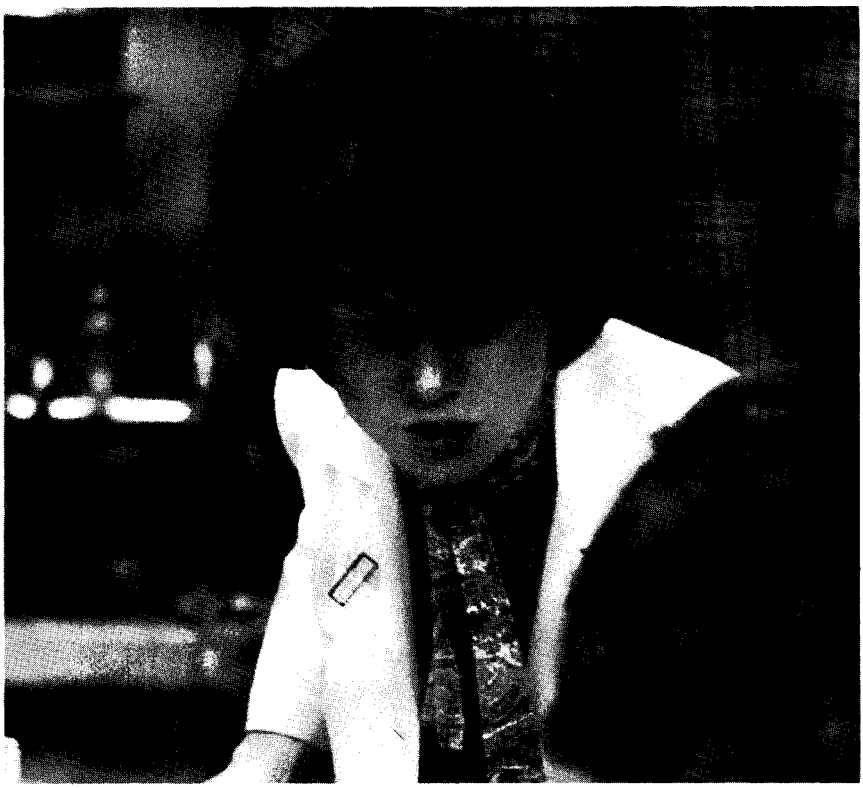
MET 437. IMMUNOHEMATOLOGY: Study of the principles of blood banking, transplantation immunity, and autoimmunity. *1 sem. hr.*

MET 437L. IMMUNOHEMATOLOGY LABORATORY: Laboratory manipulations to accompany MET 437. *2 sem. hrs.*

MET 438. CLINICAL PATHOLOGY: Lecture stressing the correlation of physiological changes in diseased states and laboratory procedures. *2 sem. hrs.*

MET 439. CLINICAL PATHOLOGY SEMINAR: Current developments and special topics. *1 sem. hr.*

MET 440. BODY FLUIDS ANALYSIS: The study of body fluids. Pathophysiology of the formation and nature of all the body fluids; techniques of examination for diagnostic information. *3 sem. hrs.*



MEDICAL TECHNOLOGY 2 + 2 (KMT)

The University of Dayton and the Kettering Medical Center School of Medical Technology (KMC SMT) have jointly established a 2+2 ladder curriculum in medical technology. This program permits someone with an associate degree from an accredited college and certification as a Medical Laboratory Technician (MLT) to earn a baccalaureate degree in Medical Technology (MT) without duplication of previous work. For this program, students spend their junior year at the University of Dayton taking general education and science requirements. They spend their senior year at Kettering Medical Center School of Medical Technology taking advanced topics in clinical laboratory science. The overall structure of the 2+2 (MLT-MT) program is as follows.

MLT COMPONENT

Students spend their first two years enrolled in an MLT program at an accredited college. During this time, they follow the curriculum prescribed for the associate degree, and following graduation they are eligible to take national certifying examinations, such as those given by the Board of Registry of the American Society of Clinical Pathologists (ASCP) and the National Certifying Agency for Clinical Laboratory Sciences (NCA).

Kettering College of Medical Arts is directly affiliated with the University of Dayton for the 2+2 program. Specific admissions criteria, application material, and curricular information for the MLT program at Kettering College can be obtained from the Registrar, Kettering College of Medical Arts, 3737 Southern Boulevard, Kettering, Ohio 45429.

MT COMPONENT

The student who has both an associate degree and certification as a laboratory technician—MLT (ASCP), CLT (NCA), or equivalent—should apply for this program from January to April by first completing the application process at Kettering Medical Center. This includes (1) a written application with recommendations and a statement of interest, (2) a personal interview, and (3) equivalency examinations designed to test knowledge of clinical theory and laboratory techniques at the technician level. Acceptance into the program is contingent on the following:

1. Positive recommendation and interview
2. Satisfactory grade-point average
3. Successful completion of the equivalency examinations
4. Space available in the class (A maximum of 10 seniors can be accommodated.)

After the student receives notification of acceptance into the clinical (fourth) year of the program from Kettering Medical Center, the student must apply to the University of Dayton for permission to enter with upper division status. Written verification of acceptance into the clinical year is a prerequisite for acceptance by UD.

For completion of the baccalaureate degree within two years following admission, the University requires the transfer of at least 64 semester-hour credits from the first two years, distributed as follows:

	Semester Hours
Biology (introductory and electives)	15
Microbiology (general and advanced)	9
Chemistry (general, organic, quantitative, and biochemistry, or equivalents)	16
Mathematics (equivalent to MTH 101 or 112)	3
English (equivalent to ENG 101 and 102)	6
Philosophy and/or religious studies	6
Social-behavioral sciences	6
Humanities electives	3
Total	64

Deficiencies in these prerequisites must be made up before matriculation in the senior year. During the junior year at the University of Dayton, the student must complete all of the required courses (34 semester hours) in Program S9A and achieve a GPA that is acceptable to both the University and the KMC SMT in order to enter the senior year.

Tuition and fees charged in the junior year are those of the University. Tuition and fees in the senior year are established by the KMC SMT and paid through the University. The University will charge the Basic University Fee for Terms I and II plus graduation fees during the senior year.

PROGRAM—S9A: BACHELOR OF SCIENCE WITH A MAJOR IN MEDICAL TECHNOLOGY 2 + 2 (KMT)[1]

Dept.	*No.*	*Course*	*1st Term*[2]	*2nd Term*
		Junior Year		
MGT	305	Management and Organization	3-0-3	
MTH	207	Statistical Methods		3-0-3
PHL	315	Medical Ethics	3-0-3	
—	—	Science electives[3]	6-0-6	6-0-6
—	—	Philosophy and/or religious studies	3-0-3	3-0-3
—	—	Humanities elective		3-0-3
—	—	General electives[4]	2-0-2	2-0-2
			17	17

[1]Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

[2]For example, 3-0-3 means 3 hrs. class, 0 hrs. lab., 3 sem. hrs. credit.

[3]Students contemplating graduate education in the sciences should consider taking Organic Chemistry (CHM 313-314) and General Physics (PHY 201-202). If the latter track is not followed then electives may be chosen from Physiology (BIO 403), Endocrinology (BIO 417), Cell Biology (BIO 440), Pathophysiology (BIO 464), Biochemistry (BIO 420), CPS courses, Introduction to Medical Electronic Instrumentation (PHY 204), or, with the advisor's permission, other science courses.

[4]Can be laboratories to accompany science electives.

Senior Year[1]

		Semester Hours
KMT 411	Hematology II	5
KMT 412	Coagulation II	2
KMT 413	Immunohematology II	2

KMT 414	Immunology II	2
KMT 415	Microbiology II	3
KMT 416	Parasitology II	2
KMT 417	Chemistry II	6
KMT 418	Mycology	2
KMT 419	Instrument Check Systems	2
KMT 420	Research Design and Methodology	4
KMT 421	Education	2
KMT 422	Education Practicum	1
KMT 423	Laboratory Administration	1
KMT 424	Administration Practicum	1
KMT 425	Applied Clinical Procedures	4

[1]All courses conducted at the Kettering School of Medical Technology.

FACULTY

Charles J. Chantell, *University Program Director*
Clinical Professor: Bylsma
Clinical Assistant Professor: Columbus

COURSES OF INSTRUCTION

The courses taken during the third year at the University of Dayton, listed under Program-S9A, are described under the individual departments. The fourth year is performed at the Kettering School of Medical Technology.

KMT 411. HEMATOLOGY II: Study of disease correlation and nonroutine hematological examinations including bone marrows and identification of abnormal cellular elements. *5 sem. hrs.*

KMT 412. COAGULATION II: Study of the clinical correlation and less frequently performed special laboratory tests of hemostasis. *2 sem. hrs.*

KMT 413. IMMUNOHEMATOLOGY II: Study of special problem-solving techniques in immunohematology associated with the identification of atypical or unusual antibodies. *2 sem. hrs.*

KMT 414. IMMUNOLOGY II: Study of the theory of humoral and cellular immune response including less commonly used immunological laboratory tests and clinical correlation for those tests. *2 sem. hrs.*

KMT 415. MICROBIOLOGY II: Study of the nonroutine procedures in microbiology including mycobacteria, viruses, and identification of unusual microorganisms. *3 sem. hrs.*

KMT 416. PARASITOLOGY II: The life cycles, modes of transmission, and laboratory identification of pathogenic parasites. *2 sem. hrs.*

KMT 417. CHEMISTRY II: Theory and principles of a wide variety of quantitative techniques with evaluation of procedures and results. Includes basic metabolic processes and common disease conditions that correlate with the analytical chemical tests studied. *6 sem. hrs.*

KMT 418. MYCOLOGY: Culture and identification of fungi, including saprophytes and those causing superficial and deep mycoses. *2 sem. hrs.*

KMT 419. INSTRUMENT CHECK SYSTEMS: Performance check systems for instrumentation and equipment in the laboratory, including maintenance procedures and trouble-shooting. *2 sem. hrs.*

KMT 420. RESEARCH DESIGN AND METHODOLOGY: Discussion and practice of the principles and techniques of medical laboratory research; consideration of experimental design, literature review, quality control, statistical analysis of data, and evaluative techniques in method comparison. A paper suitable for publication in a professional journal is required. *4 sem. hrs.*

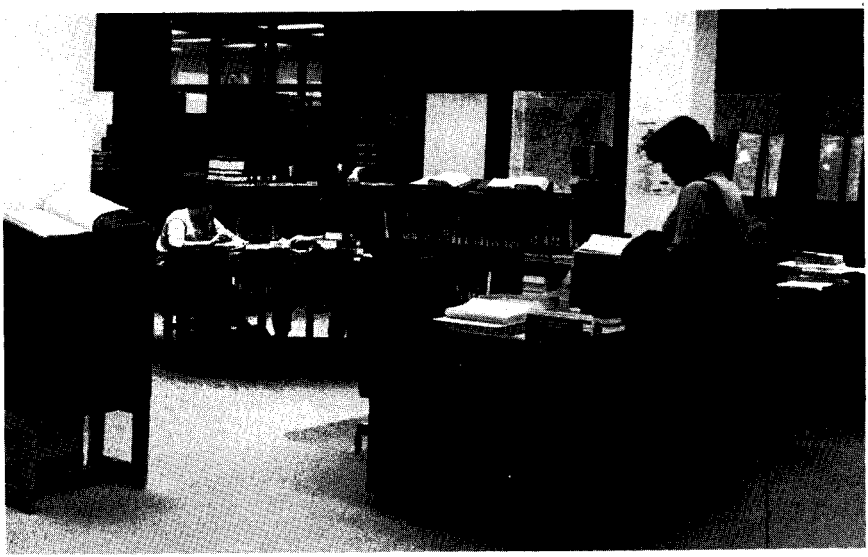
KMT 421. EDUCATION: Theory and practice of task-oriented instruction including planning, presenting, and evaluating learning experiences. *2 sem. hrs.*

KMT 422. EDUCATION PRACTICUM: Supervised teaching experience in a medical technology educational program. Personalized work-study opportunity to relate educational theory to practice. *1 sem. hr.*

KMT 423. LABORATORY ADMINISTRATION: Basic considerations of laboratory management, personnel management, and supervision. *1 sem. hr.*

KMT 424. ADMINISTRATION PRACTICUM: Supervised administrative experience in a hospital laboratory. Personalized work-study concentrating on work flow, recording and reporting systems, personnel work, time assignments, and other relationships with hospital staff. *1 sem. hr.*

KMT 425. APPLIED CLINICAL PROCEDURES: Supervised work experience in a hospital clinical laboratory with rotation through all sections. *4 sem. hrs.*



MILITARY SCIENCE (MIL)
ARMY ROTC

The Department of Military Science offers the Reserve Officers Training Corps (ROTC) program on the campus, providing instruction in general military subjects applicable to all branches of the Army. The purpose of the Reserve Officers Training Corps is to develop selected college-educated men and women for positions of responsibility as officers in the active Army, the Army Reserve, and the Army National Guard.

The Military Science Program is designed to develop a high degree of personal honor, self-reliance, and leadership and to provide the means of becoming better informed on matters of national defense. The program provides men and women who are working toward the baccalaureate degree the opportunity to become officers in the United States Army.

The four-year program is divided into a basic course (normally freshman and sophomore years) and an advanced course (normally junior and senior years), and it is offered to all students for academic credit.

The basic course emphasizes practical leadership techniques and management concepts that apply equally in both military organizations and private industry. While in this phase of the program, students have no military obligation and are simply taking ROTC courses, like any other college courses, for credit. Students who receive credit for the basic course and demonstrate a potential for becoming effective officers may continue to pursue a commission by enrolling in the advanced course.

The advanced course is designed to prepare students to be Army lieutenants by including practical work in tactics, training, management, leadership techniques, and the exercise of command. Advanced course students are paid $100 per month during the school year. During the summer between the junior and senior years, cadets attend a six-week ROTC Advanced Camp, which allows them to apply the leadership and technical training learned in the classroom. While at camp, students are paid half a second lieutenant's salary or about $600.

The ROTC program is also available to students with three or two years remaining on campus, including graduate students. Special programs, such as Basic Camp, have been established to allow second-semester sophomores and juniors or seniors who will be going on to graduate school to participate in the military science program.

There is also a special program whereby veterans and JROTC students can receive advanced placement credit in Army ROTC. Veterans and students with high school JROTC training, with the approval of the chairperson of the Department of Military Science, may receive placement credit for part or all of the basic course. Each case will be judged individually so that the best interests of both the student and the military may be served.

Army ROTC scholarships are available to students. These scholarships cover three- and two-year periods and provide for tuition, books, fees, special equipment, and $100 a month for up to ten months of each school year. Scholarships, which are highly competitive, are awarded to those who demonstrate outstanding academic and leadership ability.

FACULTY

Lt. Col. James C. Pack, U.S. Army, *Chairperson*
Professor: Pack
Assistant Professors: Cerone, Dorr, Gillis
Instructor: Ingram

COURSES OF INSTRUCTION[1]

MIL 099 (UD). LEADERSHIP SKILL COURSES: Rappelling, Marksmanship (pistol and rifle), and Physical Training. Subjects determined by student interest and instructor availability. Emphasis on practical experience in each skill. *No credit*

MIL 100 (UD). LEADERSHIP LABORATORY: Practical training in military courtesy, drill and ceremony, military skills, map reading, marksmanship, and tactics. Required for all contract students. *1 sem. hr.*

MIL 101 (UD). LEADERSHIP I: ROTC programs and opportunities; branches and specialties in the military, rappelling and organization of the Army. *1 sem. hr.*

MIL 102 (UD). LEADERSHIP II: Fundamentals and principles of leadership, characteristics of a group, traits of a leader; rifle marksmanship. *1 sem. hr.*

MIL 105 (UD). U.S. MILITARY TODAY: Roles, missions, organizational structure, tactical employment, equipment, and future trends of the armed services. Incorporates the background experience of resident instructors and presentations by visiting service representatives. *1 sem. hr.*

MIL 106 (UD). U.S. MILITARY IN CURRENT WORLD AFFAIRS: Seminar on the contemporary role of the military, the role of military power, the relationship of natural resources to national power. *1 sem. hr.*

MIL 121 (SCC). Same as MIL 101 (UD). *0.7 sem. hr.*

MIL 122-123 (SCC). Combination of these two courses completes all requirements of MIL 102 (UD). *0.7 sem. hr. each*

MIL 201 (UD). MAP READING AND TACTICS: Study of leadership in the military, basic military tactics, tactical management, and map reading skills. Optional field trips. *2 sem. hrs.*

MIL 202 (UD). FIRST AID AND LEADERSHIP: Leadership considerations for unit physical fitness and health; basic first aid procedures and an introduction to CPR. Optional field trips. *2 sem. hrs.*

MIL 221 (SCC). Same as MIL 201 (UD). *1.4 sem. hrs.*

MIL 222-223 (SCC). Combination of these two courses completes all requirements of MIL 202 (UD). *1.4 sem. hrs. each*

MIL 301 (UD). LEADERSHIP IN TACTICS AND EVALUATION TECHNIQUES: Study of military weapons systems, land navigation, and small unit tactics. Weekend training exercises and monthly physical fitness tests. *2 sem. hrs.*

MIL 302 (UD). COMMUNICATIONS AND PROFESSIONAL KNOWLEDGE: The leader's role in directing and coordinating tactical missions. Employment of weapons systems, communications techniques, troop leading, and roles of various branches of the Army. Field trips. *2 sem. hrs.*

[1]Students should check with their deans for any restrictions on applying MIL courses to their degree programs.

MIL 303 (UD). LEADERSHIP INTERNSHIP I: Application of the leadership principles and tecniques taught in MIL 301 and 302. Prerequisites: MIL 301, 302, or approval of department chairperson. *4 sem. hrs.*

MIL 304 (UD). LEADERSHIP INTERNSHIP II: Application of the leadership principles and techniques taught in MIL 301 and 302. Prerequisites: MIL 301, 302, 303, or approval of department chairperson. *2 sem. hrs.*

MIL 321 (SCC). Analysis of geography as it pertains to military functions, study of military weapons systems and tactical communications equipment. Weekend training exercise and monthly physical fitness tests. *1.4 sem. hrs.*

MIL 322 (SCC). Same as MIL 302 (UD). *1.4 sem. hrs.*

MIL 323 (SCC). Leadership responsibilities during special tactical situations and basic analysis of Soviet armed forces. Completes MS III requirement. *1.4 sem. hrs.*

MIL 401 (UD). LEADERSHIP MANAGEMENT AND STAFF: Study of military staff functions, military correspondence, effective and ineffective leadership, uses of the principles of war, attitudes toward the military. *2 sem. hrs.*

MIL 402 (UD). APPLIED LEADERSHIP AND MANAGEMENT: Leadership and management studies in professionalism, ethics, and military justice. Obligations and responsibilities of an officer, including chain of command and officer-enlisted relationships. *2 sem. hrs.*

MIL 421 (SCC). Same as MIL 401 (UD). *1.4 sem.hrs.*

MIL 422 (SCC). Study of military correspondence and its techniques. *1.4 sem. hrs.*

MIL 423 (SCC). Essentially the same as MIL 402 (UD). Completes MS IV requirements at SCC. *1.4 sem. hrs.*

MUSIC (MUS)

The Music Division, part of the University's Performing and Visual Arts Department, is a member of the National Association of Schools of Music, which accredits its degree programs and curricula. In addition, the music education degree program is approved by the State of Ohio and the music therapy degree program by the National Association for Music Therapy. At the University of Dayton, music students have the opportunity to enrich their cultural backgrounds through exposure to the other divisions of the Performing and Visual Arts Department (Fine Arts, Theatre, Photography) or to develop their own interdisciplinary programs.

The Music Division has numerous performing ensembles open to all students by audition: The University Choir, chamber vocal ensembles, Chamber Orchestra, Wind Ensemble, Concert Band, Marching Band and Pep Band, Jazz Lab Bands, and chamber instrumental ensembles.

The Music Division offers five degree programs:

A12: Bachelor of Arts with a Major in Music (MUS)

A13: Bachelor of Music with a Major in Music Theory (MTY) or Composition (MUC)

A13A: Bachelor of Music with a Major in Performance (MUP)

A13B: Bachelor of Music with a Major in Music Therapy (MUT)

A13C: Bachelor of Music with a Major in Music Education (MUE)

All prospective music students must be admitted to the University of Dayton by the Office of Admissions. In addition, all prospective students must (1) furnish the Music Division with letters of recommendation from their high school music teachers and/or performance teachers, and (2) successfully complete the performance audition, either in person or via tape recording. Specific information regarding audition requirements and dates is available from the Music Division office.

The Music Division offers the degree programs outlined below. Detailed descriptions of the contents of all of these programs are available from the Music Division office.

The Music Division offers a minor in music; specific information is available from the Music Division office. Many courses, including performance courses and music appreciation and fundamentals courses, are open to all University students, and can be used as humanities electives in various degree programs.

PROGRAM—A12: BACHELOR OF ARTS WITH A MAJOR IN MUSIC (MUS)[1]

Dept.	*No.*	*Course*	*Semester Hours*	
		Freshman Year[2]	1st Term	2nd Term
MUS	111-112	Theory of Music I	3	3
MUS	113-114	Aural Skills I	1	1
MUS	296-297	Class Piano[3]	1	1
MUS	390	Ensemble	1	1
MUS	399	Performance	2	2
ENG	101-102	College Composition I and II	3	3
SPE	101	Fundamentals of Effective Speaking	3	
—	—	General education and breadth requirements		5
			14	16

		Sophomore Year[2]		
MUS	211-212	Theory of Music II	3	3
MUS	213,215	Aural Skills II	1	1
MUS	301-302	History of Music	3	3
MUS	390	Ensemble	1	1
MUS	399	Performance	2	2
HST	101 or 102	History of Western Civilization	3	
MTH	—	Mathematics requirement		3
—	—	General education and breadth requirements	3	3
			16	16
		Junior Year[2]		
MUS	—	Music history or theory elective	2	
—	—	General education and breadth requirements	13	15
			15	15
		Senior Year[2]		
MUS	—	Music electives	2	2
—	—	General education requirements and electives	12	12
			14	14

Music requirements:	*Semester Hours*	
Theory of music	16	
History and literature of music	6	
Electives in music history or theory	2	
Performance studies (including class piano, if needed)	10	
Ensemble	4	
Music electives	4	42
Communication skills		3-9
Breadth requirements		
Natural science	7	
Mathematics	3	
Social and behavioral science	12	
Humanities	18	
Philosophy and/or religious studies	12	52
General education[4] and academic electives to total at least		120

[1]See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

[2]Music majors must register for MUS 400 Recital Attendance (no credit) each semester.

[3]Class piano (MUS 296ff) may be suggested for students with no piano background.

[4]See Chapter V. Courses taken as part of the general education requirement may also fulfill the breadth requirement. Check with program advisor.

PROGRAM—A13: BACHELOR OF MUSIC WITH A MAJOR IN MUSIC THEORY (MTY) OR COMPOSITION (MUC)

Dept.	*No.*	*Course*	*Semester Hours* 1st Term	2nd Term
		Freshman Year[1]		
MUS	111-112	Theory of Music I	3	3
MUS	113-114	Aural Skills I	1	1
MUS	390	Ensemble	1	1
MUS	399	Performance[2]	2	2
ENG	101-102	College Composition I and II	3	3
SPE	101	Fundamentals of Effective Speaking	3	
—	—	General education and breadth requirements	4	7
			17	17

		Sophomore Year[1]		
MUS	211-212	Theory of Music II	3	3
MUS	213,215	Aural Skills II	1	1
MUS	301-302	History of Music	3	3
MUS	390	Ensemble	1	1
MUS	399	Performance[2]	2	2
MUS	—	Music electives	1	1
—	—	General education and breadth requirements	6	6
			17	17
		Junior Year[1]		
MUS	320	Basic Conducting	2	
MUS	330 or 351	Advanced Conducting		2
MUS	390	Ensemble	1	1
MUS	399	Performance[2]	2	2
MUS	—	Music theory or composition electives	4	3
HST	101 or 102	History of Western Civilization		3
MTH	—	Mathematics	3	
—	—	General education and breadth requirements	5	6
			17	17
		Senior Year[1]		
MUS	390	Ensemble	1	1
MUS	—	Music theory or composition electives	3	6
MUS	—	Music history elective	3	
MUS	—	Music electives	10	10
			17	17

	Semester Hours
Communication skills	3-9
Philosophy and/or religious studies	12
Breadth requirement[3]	12
Music requirements:	
Theory of music and/or composition 32	
History and literature 9	
Conducting 4	
Performance 12	
Ensemble 8	
Music electives 22	87
General education requirement[4]	30
Total for the degree	136

Each major in this degree program will either submit a research paper or present a recital of original compositions in the senior year. If a paper is written, its subject will be chosen by the student with the advice and approval of a faculty committee. The paper must be approved by a faculty committee.

[1]Music majors must register for MUS 400 Recital Attendance (no credit) each semester.

[2]Class piano (MUS 296ff) may be suggested for students with no piano background.

[3]Breadth requirement: 6 sem. hrs. selected from languages, English, history, communication, performing and visual arts (other than music), philosophy, and religious studies; 6 sem. hrs. selected from psychology, sociology, anthropology, economics, political science, marketing, management, education, mathematics, and the natural sciences. The total breadth requirement is 12 sem. hrs.

[4]See Chapter V. Courses taken as part of the general education requirement may also fulfill the breadth requirement. Check with program advisor.

PROGRAM—A13A: BACHELOR OF MUSIC WITH A MAJOR IN PERFORMANCE (MUP)

Dept.	*No.*	*Course*	*Semester Hours*	
		Freshman Year[1]	1st Term	2nd Term
MUS	111-112	Theory of Music I	3	3
MUS	113-114	Aural Skills I	1	1
MUS	390	Ensemble	1	1
MUS	399 or 499	Performance[2]	2	4
ENG	101-102	College Composition I and II	3	3
SPE	101	Fundamentals of Effective Speaking	3	
HST	101 or 102	History of Western Civilization	3	
—	—	General education and breadth requirements		5
			16	17
		Sophomore Year[1]		
MUS	211-212	Theory of Music II	3	3
MUS	213, 215	Aural Skills II	1	1
MUS	301-302	History of Music	3	3
MUS	390	Ensemble	1	1
MUS	399 or 499	Performance[2]	4	4
—	—	General education and breadth requirements	5	5
			17	17
		Junior Year[1]		
MUS	320	Basic Conducting	2	
MUS	390	Ensemble	1	1
MUS	399 or 499	Performance[2]	4	4
MUS	—	Music elective		2
MTH	—	Mathematics		3
—	—	General education and breadth requirements	10	7
			17	17
		Senior Year[1]		
MUS	390	Ensemble	1	1
MUS	399 or 499	Performance[2]	6	6
MUS	—	Music electives	3	11
—	—	General education and breadth requirements	7	
			17	18

	Semester Hours
Communication skills	3-9
Philosophy and/or religious studies	12
Breadth requirement[3]	15
Music requirements:	
Theory of music 16	
History and literature 9	
Conducting 2	
Performance studies in major instrument or voice 24-32	
Performance studies in minor instrument 4-12	
Ensemble 8	
Music electives 16	87
General education requirement[4]	30
Total for the degree	136

In order to enter the program leading to the Bachelor of Music with a Major in Performance, the student must be an acceptable performer in repertoire equivalent to that in the Ohio Music Education Association contest lists.

For a piano major, the student's entrance audition should demonstrate the ability to play major and minor scales in parallel motion and major and minor triads in arpeg-

giated form. The student should have studied (1) 2-part and 3-part Inventions, or Preludes and Fugues, by J.S. Bach; (2) sonatas by Haydn, Mozart, and Beethoven; (3) short compositions and at least one major work of composers from the Romantic period.

Each student will demonstrate proficiency as a performer by the presentation of a junior half-recital and a senior recital.

[1]Music majors must register for MUS 400 Recital.

[2]If piano is not the major instrument, it will be the minor instrument. The organ major may choose a non-keyboard minor with the consent of the advisor.

[3]Breadth requirement: 6-9 sem. hrs. selected from languages, English, history, communication, performing and visual arts (other than music), philosophy, and religious studies; 6-9 sem. hrs. selected from psychology, sociology, anthropology, economics, political science, marketing, management, education, mathematics, and the natural sciences. The total breadth requirement is 15 sem. hrs.

[4]See Chapter V. Courses taken as part of the general education requirement may also fulfill the breadth requirement. Check with program advisor.

PROGRAM—A13B: BACHELOR OF MUSIC WITH A MAJOR IN MUSIC THERAPY (MUT)

Dept.	*No.*	*Course*	*Semester Hours* 1st Term	2nd Term
		Freshman Year[1]		
MUS	111-112	Theory of Music I	3	3
MUS	113-114	Aural Skills I	1	1
MUS	296-297	Class Piano	1	1
MUS	324	Beginning Guitar		1
MUS	390	Ensemble	1	
MUS	399	Performance	2	2
ENG	101-102	College Composition I and II	3	3
SPE	101	Fundamentals of Effective Speaking		3
PSY	101	Introductory Psychology	3	
PSY	363	Abnormal Psychology		3
—	—	General education or breadth requirement	3	
			17	17
		Sophomore Year[1]		
MUS	211-212	Theory of Music II	3	3
MUS	213, 215	Aural Skills II	1	1
MUS	285-286	Introduction to Music Therapy	2	2
MUS	287	Practicum in Music Therapy		1
MUS	298-299	Class Piano	1	1
MUS	301-302	History of Music	3	3
MUS	354	Advanced Guitar		1
MUS	399	Performance	2	2
MUS	487	Recreational Music	2	
MTH	—	Mathematics	3	
—	—	General education or breadth requirement		3
			17	17
		Junior Year[1]		
MUS	235	Voice Class	1	
MUS	280	Music and Movement for the Handicapped	1	
MUS	288	Practicum in Music Therapy		1
MUS	326	Woodwind Instruments	1	
MUS	328	Percussion Class		1
MUS	390	Ensemble	1	1
MUS	399	Performance	2	

MUS	485-486	Psychological Foundations of Music	2	2
MUS	—	Music elective		2
EDP	245	Modern Dance	2	
EDD	305	Human Anatomy		3
PSY	355	Psychology of the Exceptional Child		3
HST	101 or 102	History of Western Civilization	3	
—	—	General education and breadth requirements	3	3
			16	16

Senior Year[1]

MUS	320	Basic Conducting	2	
MUS	325 or 317	String or Organ Class		1
MUS	327	Brass Instruments	1	
MUS	334	Fundamentals of Orchestration		2
MUS	385	Music Therapy Principles	3	
MUS	386	Music Therapy Methods and Materials		3
MUS	387-388	Practicum in Music Therapy	1	1
MUS	390	Ensemble	1	1
MUS	—	Music electives	2	
PSY	—	Psychology elective	3	
—	—	General education and breadth requirements	3	9
			16	17

After Senior Year

MUS	489	Music Therapy Internship[3]	2

Music requirements:		*Semester Hours*
Theory of music and aural skills	16	
History and literature of music	6	
Conducting and orchestration	4	
Performance studies (including study on the student's principal instrument or voice, as well as in specified instrumental methods and on accompanying instruments of piano and guitar)	21	
Music therapy	19	
Recreational music	2	
Music and dance electives	6	
Ensemble	6	
Music therapy internship[2]	2	82
Other music therapy requirements:		
Psychology	12	
Sociology	3	
Science	6	21
Communication skills		3-9
Philosophy and/or religious studies		12
Breadth requirement[3]		9
General education requirement[4]		30
Total for the degree		135

The music therapy candidate will present not less than one-half recital by the senior year.

[1]Music majors must register for MUS 400, Recital Attendance (no credit) each semester. Note also that a minimum of 6 sem. hrs. in ensemble is required for graduation, with credit given for satisfactory ensemble participation even if the student is not registered for it.

[2]This internship of six months is taken after student completes all other course requirements. In order to be recommended for an internship, the student must have an overall grade point average of at least 2.00 and a grade point average of at least 2.50 in music, music therapy, and psychology coursework. Upon successful completion of the internship requirement, the student will receive the Bachelor of Music with a

Major in Music Therapy. The graduate is then eligible to take a national certification examination to become a Music Therapist—Board Certified. A student has the option to graduate before the internship and receive the Bachelor of Music with a Major in Music.

[3]Breadth requirement: Nine sem. hrs. in humanities, selected from languages, communication, English, history, performing and visual arts, philosophy, and religious studies. See other music therapy requirements for science breadth.

[4]See Chapter V. Courses taken as part of the general education requirement may also fulfill the breadth requirement. Check with program advisor.

PROGRAM—A13C: BACHELOR OF MUSIC WITH A MAJOR IN MUSIC EDUCATION[1] VOCAL EMPHASIS (MUE)

Dept.	*No.*	*Course*	*Semester Hours* 1st Term	2nd Term
		Freshman Year[2]		
MUS	111-112	Theory of Music I	3	3
MUS	113-114	Aural Skills I	1	1
MUS	390	Ensemble	1	1
MUS	399	Performance[3]	2	2
ENG	101-102	College Composition I and II	3	3
SPE	101	Fundamentals of Effective Speaking	3	
MTH	___	Mathematics requirement	3	
___	___	General education and breadth requirements		7
			16	17
		Sophomore Year[2]		
MUS	211-212	Theory of Music II	3	3
MUS	213, 215	Aural Skills II	1	1
MUS	301-302	History of Music	3	3
MUS	324	Beginning Guitar[4]	1	
MUS	354	Advanced Guitar		1
MUS	390	Ensemble	1	1
MUS	399	Performance[3]	2	2
EDT	207	Child and Adolescent in Education	3	
EDT	208	Teaching and Learning		3
___	___	General education and breadth requirements	3	3
			17	17
		Junior Year[2]		
MUS	320	Basic Conducting	2	
MUS	325	String Class		1
MUS	331	Vocal Music in High School	2	
MUS	333	Organization of School Music Program		2
MUS	334	Fundamentals of Orchestration	2	
MUS	390	Ensemble	1	1
MUS	399	Performance	2	2
MUS	___	Instrument class[5]		1
EDT	318	Human Relations in Education	2	
EDT	351	Secondary School, Self, and Society		3
HST	101 or 102	History of Western Civilization	3	
___	___	General education and breadth requirements	3	8
			17	18
		Senior Year[2]		
MUS	235	Voice Class	1	
MUS	335	Music in the Elementary Grades	2	
MUS	351	Choral Conducting	2	
MUS	390	Ensemble	1	
MUS	399	Performance	2	

MUS	___	Instrument class[5]	1	
MUS	___	Music elective	3	
EDT	419	Philosophy of Education[6]		3
EDT	422	Student Teaching		12
EDT	469	Reading in the Content Areas	2	
___	___	Elective	3	
			17	15

Semester Hours

Communication skills		3-9
Philosophy and/or religious studies		12
Education courses		24
Other breadth requirements		17
Music requirements:		
Theory of music	16	
History and literature	6	
Conducting	4	
Class piano	4	
Performance	14	
Ensemble	7	
Music education	13-14	
Music electives to total		69
General education requirement[7]		30
Total for the degree		134

Each music education student will demonstrate proficiency as a performer in a half-recital in the senior year. Each candidate must complete 300 hours of observation and/or practicum experience to receive certification by the State of Ohio.

[1]The State of Ohio grants certification, upon completion of this degree, to teach vocal and instrumental music from kindergarten through senior high school. The present curriculum is outlined for students with a vocal emphasis; the curriculum for students with an instrumental emphasis varies only slightly.

[2]Music majors must register for MUS 400 Recital Attendance (no credit) each semester.

[3]Voice majors will take a minimum of 14 sem. hrs. in vocal performance, and demonstrate piano proficiency equal to four terms of class piano (MUS 296-299). Piano and organ majors will take a minimum of 14 sem. hrs. in piano or organ; and one term of MUS 235 Voice Class. Organ majors must additionally demonstrate piano proficiency equal to four terms of class piano. All students must demonstrate satisfactory accompanying skills before student teaching.

[4]Qualified students may be able to waive MUS 324 and immediately take MUS 354.

[5]Music Education students with a vocal emphasis are required to take two courses chosen from MUS 326, MUS 327, and MUS 328.

[6]EDT 419 applies to the general education requirement of 12 sem. hrs. in philosophy and/or religious studies, and at the same time to education requirements.

[7]See Chapter V. Courses taken as part of the general education requirement may also fulfill the breadth requirement. Check with program advisor.

FACULTY

Patrick S. Gilvary, *Chairperson, Department of Performing and Visual Arts*
Richard Benedum, *Head of Music Division*
Professor: Tagg
Associate Professors: Benedum, Magnuson, Sandness, Zech
Assistant Professors: Baxter, Chenoweth, Ciepluch, Jarvis, Minton, Szász

Part-time Instructors: Dill, Evoskevich, George, Gilley, Hotopp, Howard, Katz, Magg, Mangan, McCutcheon, Pagnard, Pepitone, Rodgers, Twehues, Vandevander, Varella, Winteregg, Zimmerman

COURSES OF INSTRUCTION

MUS 101. FUNDAMENTALS OF MUSIC: For the student with no previous experience with theory of music. Notation of music, key and time signatures, fundamental harmonic progression, and introduction to the piano keyboard. Elementary ear training and dictation. Open to all University students. *2 sem. hrs.*

MUS 103. MUSIC APPRECIATION: Study of the masterpieces of music with special reference to the listener. Open to all University students. *2 sem. hrs.*

MUS 104. LITERATURE FOR THE ELEMENTARY CLASSROOM: Study of music literature and its direct application to elementary classroom use. *2 sem. hrs.*

MUS 111-112. THEORY OF MUSIC I: Basic vocabulary and grammar of music: fundamentals (intervals, scales, modes, keys, triads), counterpoint studies, basic diatonic harmonic motions. Prerequisite: Placement examination. *3 sem. hrs. each*

MUS 113-114. AURAL SKILLS I: Basic technique of dictation, sight singing, and rhythmic reading. Prerequisite: Placement examination. *1 sem. hr. each*

MUS 211-212. THEORY OF MUSIC II: SATB partwriting, Schenkerian analysis, chromatic procedures, decline of Common Practice Period, basic twentieth-century compositional styles. Prerequisite: MUS 112. *3 sem. hrs. each*

MUS 213, 215. AURAL SKILLS II: Advanced dictation, sight singing, and rhythmic reading. Prerequisite: MUS 114. *1 sem. hr. each*

MUS 235. VOICE CLASS: Principles of good singing; development of the voice; vocal literature. Minimum of 4 students required. Music majors only, with permission of instructor. *1 sem. hr.*

MUS 236. VOICE CLASS: Principles of good singing; development of the voice; vocal literature. Minimum of 4 students required. Open to all students. *2 sem. hrs.*

MUS 280. MUSIC AND MOVEMENT FOR THE HANDICAPPED: Training in the use of music and movement for handicapped children under the supervision of AIM (Adventures in Movement) for the Handicapped, Inc. Includes observations in the field. Prerequisite: Sophomore standing in music or related fields. *1 sem. hr.*

MUS 285. INTRODUCTION TO MUSIC THERAPY I: History and development of music therapy; survey of theoretical bases and current trends for the use of music in therapy; disability areas using music therapy. Prerequisites: PSY 101, 363. *2 sem. hrs.*

MUS 286. INTRODUCTION TO MUSIC THERAPY II: Continuation of MUS 285; orientation to the profession of music therapy through lectures, readings, audiovisual materials, and field trips; emphasis on specific disability areas using music therapy. Prerequisite: MUS 285. *2 sem. hrs.*

MUS 287. PRACTICUM IN MUSIC THERAPY I: Pre-internship field experiences with adult mentally ill clients. Corequisite: MUS 286. *1 sem. hr.*

MUS 288. PRACTICUM IN MUSIC THERAPY II: Pre-internship field experiences with handicapped children and/or adults. Prerequisite: MUS 280. *1 sem. hr.*

MUS 296. CLASS PIANO I: Open to all University students. Fee. *1 sem. hr.*

MUS 297. CLASS PIANO II: Fee. *1 sem. hr.*

MUS 298. CLASS PIANO III: Fee. *1 sem. hr.*

MUS 299. CLASS PIANO IV: May be repeated up to 4 sem. hrs. Fee. *1 sem. hr.*

*MUS 301-302. MUSIC HISTORY AND LITERATURE I AND II: A survey of Western music history and literature from the Middle Ages to the present. Important composers, masterworks of music literature, compositional styles. *3 sem. hrs. each*

MUS 304. HISTORY OF AMERICAN MUSIC: Survey of the American musical heritage emphasizing Anglo- and Afro-American folk traditions, early religious music, country music, pioneers in piano, band and concert music, and contemporary popular music. Open to all University students. *3 sem. hrs.*

MUS 306. HISTORY OF AMERICAN JAZZ: Survey of the literature and performance practices from 1890 to the present. Includes blues, Dixieland, ragtime, boogie-woogie, swing, bop, cool, funky, and current techniques. Open to all University students. *3 sem. hrs.*

MUS 307. DEVELOPMENT OF AMERICAN POPULAR SONG: Survey of American popular music from the days of the colonies, the war years, the ballad opera, minstrel, vaudeville, operetta, early film music, through Tin Pan Alley to Broadway with European influences. *3 sem. hrs.*

MUS 310. ADVANCED AURAL SKILLS: Advanced training in dictation, solfege, and aural analysis. Prerequisite: MUS 215 or permission of instructor. *2 sem. hrs.*

MUS 311. EIGHTEENTH-CENTURY COUNTERPOINT: Study of the contrapuntal technique of the 18th century, particularly in the instrumental works of J.S. Bach. Original compositions in forms of the invention and the fugue. Prerequisite: MUS 211. *2 sem. hrs.*

MUS 315. THE OPERA: Survey of the development of the opera from its 17th-century beginnings to the present. *2 sem. hrs.*

MUS 317. ORGAN CLASS: Introduction to the organ, including basic performance techniques, registration, beginning literature, and hymn playing. Prerequisite: Permission of instructor, demonstrable keyboard technique. Fee. *1 sem. hr.*

MUS 319. INTRODUCTION TO HARPSICHORD: Beginning class lessons in harpsichord performance, including basic technique, stylistic considerations, and simple maintenance and tuning of the instrument. Prerequisite: Permission of instructor. Fee. *1 sem. hr.*

MUS 320. BASIC CONDUCTING: Fundamentals of baton technique; laboratory experience in conducting choral and instrumental work of the 19th and 20th centuries; cueing, score reading, terminology. Discussion of rehearsal procedures, materials, and special problems. Thorough study of instrumentation. *2 sem. hrs.*

MUS 324. BEGINNING GUITAR: Introduction to playing the guitar; emphasis on chord playing and accompaniment; application of the guitar to classroom music teaching if appropriate. Prerequisite: MUS 101 or equivalent. Fee. *1 sem. hr.*

MUS 325. STRINGED INSTRUMENTS I: Class instruction in violin, viola, cello, bass. Teaching stringed instruments in schools. Open to any qualified University students. Prerequisites: Ability to read music, permission of instructor. Fee. *1 sem. hr.*

MUS 326, 336. WOODWIND INSTRUMENTS LABORATORY I-II: Introduction to the fundamentals and teaching of woodwinds with emphasis on performance. Demonstrations of class teaching techniques and introduction to method books. Prerequisite: Junior standing in music. Fee. *1 sem. hr. each*

MUS 327, 337. BRASS INSTRUMENTS LABORATORY I-II: Introduction to the fundamentals and teaching of brass instruments with emphasis on performance. Demonstrations of class teaching techniques and introduction to method books. Prerequisite: Junior standing in music. Fee. *1 sem. hr. each*

MUS 328. PERCUSSION INSTRUMENTS LABORATORY: Introduction to the fundamentals and teaching of percussion instruments. Demonstrations of class teaching techniques and introduction to method books. Prerequisite: Junior standing in music. Fee. *1 sem. hr.*

MUS 329. STRINGED INSTRUMENTS II: Continuation of MUS 325 to further skills in teaching and performance. Concentration on cello/bass. Prerequisites: MUS 325 or equivalent, permission of the instructor. Fee. *1 sem. hr.*

MUS 330. ADVANCED INSTRUMENTAL CONDUCTING: Advanced work in the preparation of scores for the wind ensemble. Discussion of wind rehearsal techniques and the development of programming procedures. Rehearsal techniques; attendance at wind ensemble rehearsals and actual rehearsing of the ensemble. Prerequisites: MUS 320, permission. Required for instrumental music education majors. *2 sem. hrs.*

MUS 331. VOCAL MUSIC IN THE HIGH SCHOOL: Methods and materials for large and small ensembles. Prerequisite: Junior standing in music education. *2 sem. hrs.*

MUS 333. ORGANIZATION OF THE SCHOOL INSTRUMENTAL MUSIC PROGRAM: Organization and teaching of instrumental music in the schools; survey of equipment and necessary materials. Prerequisite: Junior standing in music. *2 sem. hrs.*

MUS 334. FUNDAMENTALS OF ORCHESTRATION: Instrumentation studies of the four main orchestral families: woodwinds, brass, percussion, strings. Some work in combining families. Prerequisite: MUS 212 or permission. Required of music majors. *2 sem. hrs.*

MUS 335. MUSIC IN THE ELEMENTARY GRADES: The music education program in elementary grades; materials and presentation; problems and responsibilities of the music teacher. Prerequisite: Sophomore standing in music education. *2 sem. hrs.*

MUS 341. BAROQUE MUSIC: Literature and performing practices from 1600 to 1750; the relationship of music to social and cultural movements. Open to all University students. *2 sem. hrs.*

MUS 342. CLASSIC AND ROMANTIC MUSIC: Literature and performing practices from 1750 to 1900; the relationship of music to social and cultural movements. Open to all University students. *3 sem. hrs.*

MUS 343. MEDIEVAL AND RENAISSANCE MUSIC: The development of music from circa 400 to 1600, including plainchant, early polyphony, Ars Nova, and Renaissance music; the relationship of music to other arts and to its historical context. Open to all University students. *2 sem. hrs.*

MUS 344. TWENTIETH-CENTURY MUSIC: A study of 20th-century music, its styles, and its cultural contexts, including post-romantic, impressionistic, neo-classic, and avant-garde. Open to all University students. *2 sem. hrs.*

MUS 351. CHORAL CONDUCTING: Development of choral conducting skills. Practical experience with choral ensembles; attendance at University Choir required. Required for music education vocal emphasis majors. Prerequisites: MUS 320, junior standing in music. *2 sem. hrs.*

MUS 354. ADVANCED GUITAR: Note-reading in first position; advanced chord work and introduction to chord solo playing. Prerequisite: MUS 324 or equivalent. Fee. *1 sem. hr.*

MUS 360. SPECIAL TOPICS IN MUSIC: Studies in specialized areas of music. May be repeated as topics change, up to six semester hours. Prerequisite: Permission of instructor. *1-3 sem. hrs.*

MUS 361. PIANO PEDAGOGY I: Systematic preparation for the development of piano technique and tone; survey and study of graded teaching material of grades I and II. Prerequisite: Four terms of piano study or the equivalent. *2 sem. hrs.*

MUS 362. PIANO PEDAGOGY II: Continuation of MUS 361 through the material of grades III and IV. Prerequisite: MUS 361 or five terms of piano study or equivalent. *2 sem. hrs.*

MUS 365. SCORE READING: Training in reading music at the piano from open score. Drill in transposition and reading of various clefs, leading to the realization of full vocal and orchestral scores. Prerequisite: Permission. *2 sem. hrs.*

MUS 371. PIANO LITERATURE I: Comprehensive survey of literature for the piano from the early keyboard music to the romantic period. Required of piano majors. Prerequisite: Permission of instructor. *2 sem. hrs.*

MUS 372. PIANO LITERATURE II: Continuation of comprehensive survey of literature of keyboard music from the romantic period to the present day. Required of piano majors. Prerequisite: Permission of instructor. *2 sem. hrs.*

MUS 385. MUSIC THERAPY PRINCIPLES: Principles and processes underlying the applications of music in therapy, including writing goals and objectives and treatment plans. Applications of the teaching-learning process, group dynamics, and evaluation and assessment in music therapy. *3 sem. hrs.*

MUS 386. MUSIC THERAPY METHODS AND MATERIALS: Applications of various methods and approaches in psychotherapy, child development, and related fields to the practice of music therapy. Review of the clinical and research literature pertaining to techniques and materials of music therapy. *3 sem. hrs.*

MUS 387. PRACTICUM IN MUSIC THERAPY III: Pre-internship field experiences with handicapped children and/or adults. Corequisite: MUS 385. *1 sem. hr.*

MUS 388. PRACTICUM IN MUSIC THERAPY IV: Pre-internship field experiences with handicapped children and/or adults. Corequisite: MUS 386. *1 sem. hr.*

MUS 390. MUSIC ENSEMBLES: Open to all University students by audition. Required participation by music majors as specified in various degree programs.

MUS 390. UNIVERSITY CHOIR: Mixed chorus literature and music for men's chorus and women's chorus. Presents campus and community concerts . *1 sem. hr.*

MUS 390. VOCAL ENSEMBLE: *1/2 sem. hr.*

MUS 390. STRING ENSEMBLE: *1/2 sem. hr.*

MUS 390. PIANO ENSEMBLE: *1/2 sem. hr.*

MUS 390. MARCHING BAND: Plays at all home and some away football games. Its sound finds roots in jazz and rock. All freshman students may participate in any band unit including block, majorettes, and Flyerettes. *1 sem. hr.*

MUS 390. PEP BAND: *½ sem. hr.*

MUS 390. CONCERT BAND: Offers varied opportunities in musical performances. Presents regular concerts during fall and winter terms. *1 sem. hr.*

MUS 390. WIND ENSEMBLE: Select band that performs finest in wind literature. Presents regular concerts during fall and winter terms. *1 sem. hr.*

MUS 390. UNIVERSITY STRINGS: *1 sem. hr.*

MUS 390. CHAMBER ORCHESTRA: *1 sem. hr.*

MUS 390. BRASS CHOIR: Select ensemble of 24 brass and percussion players. Music from Renaissance to present. *1/2 sem. hr.*

MUS 390. JAZZ LAB BAND: Jazz and rock fields. Open by audition to any student registered in band program. *1/2 sem. hr.*

MUS 390. SMALL BRASS ENSEMBLE: *1/2 sem. hr.*

MUS 390. PERCUSSION ENSEMBLE: *1/2 sem. hr.*

MUS 390. WOODWIND ENSEMBLE: *1/2 sem. hr.*

MUS 390. CLARINET CHOIR: *1/2 sem. hr.*

MUS 390. GUITAR ENSEMBLE: *1/2 sem. hr.*

MUS 390. CELLO ENSEMBLE: *1/2 sem. hr.*

MUS 399. PERFORMANCE STUDIES: Private instruction (one half-hour lesson per week) in piano, voice, organ, violin, viola, cello, bass, flute, oboe, clarinet, bassoon, saxophone, trumpet-cornet, French horn, trombone, baritone, tuba, percussion, harp, classical and pick-style guitar, jazz piano improvisation. Prerequisite: Permission of instructor. Fee. *2 sem. hrs.*

MUS 400. RECITAL: All music majors are required to attend professional and student concerts and recitals, to develop critical listening experience and knowledge of repertoire. *No credit*

MUS 411-412. COMPOSITION: Beginning explorations of original composition which utilize equally the concepts of pitch, temporal elements, timbres, and dynamics. Prerequisite: MUS 215 or permission of instructor. *2 sem. hrs. each*

MUS 413. STYLE AND DESIGN—ANALYSIS: Exploration of appropriate analytical techniques as applied to Western music from the Renaissance to the present. Prerequisites: MUS 212 and 215 or permission of instructor. *2 sem. hrs.*

MUS 414. STYLE AND DESIGN—SYNTHESIS: Exploration and application of various musical styles as demonstrated by original compositions patterned after selected historic models. Prerequisite: MUS 413 or permission of instructor. *2 sem. hrs.*

MUS 417. SIXTEENTH-CENTURY COUNTERPOINT: Study of the medieval modes and the vocal poiyphony of the motet and the Mass, up to and including five-part writing; original student compositions. Prerequisite: Permission of the instructor. *2 sem. hrs.*

MUS 420. ADVANCED ORCHESTRATION: Continuation of MUS 334. Intensive instrumentation studies and detailed analysis of orchestral work. Prerequisite: MUS 334 or permission. *2 sem. hrs.*

MUS 429. MARCHING BAND TECHNIQUES: Materials and methods of organization and instruction. Prerequisite: Participation in the marching band. *2 sem. hrs.*

MUS 433-434. RESEARCH IN MUSIC THEORY: Practical experience in analysis for music theory or composition majors. Music theory majors enroll in this course while preparing their senior research papers. Prerequisites: Senior standing in music, permission of instructor. *2 sem. hrs. each*

MUS 441-442. LABORATORY IN COMPOSITION: Advanced work in musical composition; writing multi-movement forms of both vocal and instrumental music. Prerequisites: MUS 411, 412, permission of the instructor. *2 sem. hrs. each*

MUS 451. CHAMBER MUSIC AND SYMPHONY: Formal and harmonic analysis of chamber music. Formal analysis of symphonies of classic, romantic, and contemporary composers. Prerequisites: MUS 211-212. *2 sem. hrs.*

MUS 460. SPECIAL STUDIES IN MUSIC. Studies in specialized areas of music, including music therapy and music education. May be repeated as topics change, up to nine semester hours. Prerequisite: Senior standing in music or permission of instructor. *1-6 sem. hrs.*

MUS 485. PSYCHOLOGICAL FOUNDATIONS OF MUSIC I: Study of the psycho-socio-physiological processes involved in responses to music and sound. Acoustical properties of music and physiology of sound perception. Nature of music ability and its measurement. Prerequisites: PSY 101, junior standing in music. *2 sem. hrs.*

MUS 486. PSYCHOLOGICAL FOUNDATIONS OF MUSIC II: Introduction to research methods; review of literature on experimental studies. Research project. Prerequisite: MUS 485. *2 sem. hrs.*

MUS 487. RECREATIONAL MUSIC: Functional use of nonsymphonic instruments, rhythm band instruments, musical games, and community singing, for both children and adults. *2 sem. hrs.*

MUS 489. MUSIC THERAPY INTERNSHIP: Minimum of 6 months' supervised clinical training through resident internship in an NAMT-approved program. This precedes the granting of the degree. Prerequisites: Senior standing in music therapy; permission. *2 sem. hrs.*

MUS 499. PERFORMANCE STUDIES: Private instruction (1-hr. lessons weekly) in the same subjects as MUS 399. Prerequisite: Permission of instructor. *4 sem. hrs.*

MUS 590. SPECIAL STUDIES IN MUSIC. Studies in specialized areas of music. Prerequisite: Permission of instructor. *1-4 sem. hrs.*

*General education course. See Chapter V.

MUSIC FEES: The following fees include practice privileges. This fee schedule is subject to change by the Music Division.

	Fee per term
Small group instruction in various instruments (MUS 296-299, 317, 319, 325-327, 329, 336-337)	$ 25.00
MUS 399 Performance Studies: One 30-minute lesson weekly	$ 70.00
MUS 499 Performance Studies: One 60-minute lesson weekly	$125.00

NUCLEAR MEDICINE TECHNOLOGY (NMT)

The program leading to a Bachelor of Science with a Major in Nuclear Medicine Technology consists of three years of preclinical instruction at the University of Dayton and a twelve-month clinical year in the School of Nuclear Medicine Technology at Miami Valley Hospital. The school at Miami Valley Hospital is accredited by the Committee on Allied Health Education and Accreditation (CAHEA). Graduates of the clinical program are eligible to take a national certification examination from the American Registry of Radiologic Technologists (ARRT), the Board of Registry of the American Society of Clinical Pathologists (ASCP), or the Nuclear Medicine Technology Certification Board (NMTCB).

NMT majors, along with CTT and MET majors, are undeclared Clinical Laboratory Science students for their first three full terms. All three majors follow an identical program until the second term of the sophomore year. The common curriculum is described elsewhere in this chapter under CLS.

PRECLINICAL YEARS

	Semester Hours
Biology core courses	17
Supporting science courses (CHM, CPS, MTH, PHY)	37
Science elective	3
Communication skills (ENG, SPE)	12
Philosophy and/or religious studies	12
Humanities	9
Social-behavioral science	6
Management	3
Total	99

Major Concentration

Biology Core: Four courses—BIO 151, 152, 309, 403, all with laboratories.

Supporting Science: Two mathematics courses — MTH 112, 207. (Substitute MTH 101, precalculus, if background is not suitable for MTH 112.) One computer science course—CPS 144 or 150. Five chemistry courses—CHM 123, 124, 201, 313, 314, all with laboratories. (CHM 115 must precede CHM 123 if chemistry background is inadequate.) Two physics courses—PHY 201, 202, with laboratories.

The curriculum is planned to meet the requirements of the University, the hospital, and the professional accrediting agencies. The student must complete the 99 preclinical semester hours before entering the clinical program at the affiliate hospital.

CLINICAL YEAR

Students formally apply for the clinical program at the hospital affiliate during their third year. Acceptances are competitive and are based on formal application materials, academic grades, faculty recommendations, and interview performance. The clinical program lasts 12 months, beginning in September and ending the following August. The clinical year curriculum involves formal lectures, seminars, laboratories, and preceptorship experiences. Upon successful completion of the clinical year, students are granted the Bachelor of Science with

a Major in Nuclear Medicine Technology at the University's December commencement exercises.

Tuition and fees for the clinical year are established by the hospital. The University will charge the Basic University Fee for Terms I and II. Students will pay their hospital tuition and fees through the University. Information regarding clinical year tuition and fees, class size, grading policies, dress codes, etc., is presented in the hospital program brochure.

PROGRAM—S9C: BACHELOR OF SCIENCE WITH A MAJOR IN NUCLEAR MEDICINE TECHNOLOGY (NMT)[1]

Dept.	*No.*	*Course*	*1st Term*[2]	*2nd Term*
		See Clinical Laboratory Sciences (CLS) for first three terms of curriculum.		
		Sophomore Year		
BIO	201L	Biology Laboratory Investigations		0-3-1
BIO	___	Science elective		3-0-3
CHM	314	Organic Chemistry		3-3-4
PHY	202	General Physics		3-2-4
HST	340 or 341	History elective		3-0-3
				15
		Junior Year		
BIO	403	Physiology	3-3-4	
CHM	201	Quantitive Analysis	2-4-4	
PHL	315	Medical Ethics	3-0-3	
ENG	___	English elective[3]	3-0-3	
___	___	General education requirements[4]	3-0-3	6-0-6
BIO	309	Comparative Vertebrate Anatomy		3-6-5
CPS	144 or 150	Computer science elective		3-0-3
MGT	305	Management and Organization		3-0-3
			17	17

[1]Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

[2]For example, 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. of credit.

[3]Select from ENG 203, 204, 205, 272, 316, 370, 372, 378.

[4]Some general education courses are specified in the program (e.g., PHL 315); others are to be chosen from the listing of approved courses. See Chapter V.

Senior Year

			Semester Hours
NMT	430	Introduction to Nuclear Medicine Technology Science	1
NMT	431	Nuclear Scintigraphy	3
NMT	431L	Clinical Nuclear Scintigraphy Laboratory	6
NMT	432	Radiation Physics	5
NMT	433	Nuclear Medical Instrumentation	5
NMT	434	Radiation Biology and Radiation Protection	2
NMT	435	Radioisotopes in Radioassay	2
NMT	435L	Radioassay Laboratory	5
NMT	436	Radiopharmaceuticals	2
NMT	436L	Radiopharmaceutical Laboratory	1
NMT	437	Clinical Nuclear Medicine	6
		Total	38

FACULTY

Charles J. Chantell, *University Program Director*
Clinical Professor: Quinones
Clinical Assistant Professor: Kreitzer

COURSES OF INSTRUCTION

The courses taken during the first three years at the University of Dayton, listed under Program S9C, are described under the individual departments. The senior year is conducted at affiliated hospitals.

NMT 430. INTRODUCTION TO NUCLEAR MEDICINE TECHNOLOGY SCIENCE: Description of department sections and their functions; basic understanding of proper handling of isotopes; methods for keeping radiation exposure to a minimum. *1 sem. hr.*

NMT 431. NUCLEAR SCINTIGRAPHY: Study of technological concerns involved with organ imaging, including anatomy and physiology, medical terminology, film processing, imaging techniques, patient transportation and handling, computer analysis of static and dynamic studies. *3 sem. hrs.*

NMT 431L. CLINICAL NUCLEAR SCINTIGRAPHY LABORATORY: Practical applications related to NMT 431. *6 sem. hrs.*

NMT 432. RADIATION PHYSICS: Atomic and nuclear structure, radioactive growth and decay, energetics of basic spontaneous decay process and of nuclear reactions, interaction of nuclear radiation with matter, fission phenomenon, nuclear data tables and charts. *5 sem. hrs.*

NMT 433. NUCLEAR MEDICAL INSTRUMENTATION: Basic radiation detectors and laboratory counting systems; instrumentation specific to imaging. *5 sem. hrs.*

NMT 434. RADIATION BIOLOGY AND RADIATION PROTECTION: Biological effects of ionizing radiation considered at the cellular and macroscopic levels. Basic units of radiation dose correlated with units of activity. Radiation protection, emergency procedures, and waste disposal problems. *2 sem. hrs.*

NMT 435. RADIOISOTOPES IN RADIOASSAY: Principles of radioassay with emphasis on technical aspects, trouble shooting, and clinical applications. Data reduction and quality control guidelines. Proper handling and disposal of toxic chemicals, biohazardous wastes, and radionuclides. *2 sem. hrs.*

NMT 435L. RADIOASSAY LABORATORY: Practical applications related to NMT 435. *5 sem. hrs.*

NMT 436. RADIOPHARMACEUTICALS: Properties of radioactive tracers and methodology including the chemical and biological basis for choice as radiopharmaceuticals. Production and preparation of radiopharmaceuticals. Dose calculations using the MIRD method. *2 sem. hrs.*

NMT 436L. RADIOPHARMACEUTICAL LABORATORY: Practical applications related to NMT 436. *1 sem. hr.*

NMT 437. CLINICAL NUCLEAR MEDICINE: Normal organ physiology, anatomy, pathology, physiologic fate of the administered radiopharmaceutical, current radiopharmaceuticals of choice, accepted patient dosage levels, procedure methodology, necessity for and choice of test, preparation medications, normal and abnormal test values, and contraindications for radiopharmaceutical administration and route of administration. *6 sem. hrs.*

PERFORMING AND VISUAL ARTS (PVA)

At the University of Dayton, "performing and visual arts" is an umbrella term for music, theatre, fine arts, and photography. The Department of Performing and Visual Arts has four corresponding divisions, operating autonomously and offering major programs in fine arts, commercial design, interior design, art education, music performance, music theory or composition, music therapy, music education, photography, and theatre. The department also offers a variety of possibilities to students interested in intra-departmental studies.

The Performing and Visual Arts Department holds with a policy of performance and production in all its divisions. Requirements in portfolios, gallery showings, auditions, recitals, large and small ensembles, concerts, and major and experimental productions assure the student of professional as well as academic challenge.

See, elsewhere in this chapter, Fine Arts (ART), Music (MUS), Photography (PHO), and Theatre (THR).

PHILOSOPHY (PHL)

The objective of the philosophy major program is to provide students with the opportunity to understand contemporary philosophy in view of the history of philosophy.

Students major in philosophy for a variety of reasons. Some enroll in philosophy as a pre-professional program leading to careers in law, education, social service, health care, commerce, public service, and the religious life. Some major in philosophy in preparation for advanced graduate study leading to teaching, research, or service. Still others major in philosophy to assure a broad liberal education in view of their personal interest in philosophical studies.

Philosophy majors are encouraged to develop a second major or several concentration areas in view of their educational and career objectives. Early counseling and the flexibility of the B.A. degree permit structural options in a variety of areas for philosophy majors.

Students majoring in other disciplines are encouraged to double-major in philosophy or develop concentrations in philosophy germane to their academic programs.

Major Requirements: All philosophy majors are required to take 33 semester hours in philosophy, distributed as follows:

PHL 103 (Introduction to Philosophy)
PHL 201 (Practical Logic) or PHL 302 (Symbolic Logic)
PHL 431 (Plato and Aristotle) and PHL 432 (Descartes and Hume)
PHL 461 (Contemporary Epistemology) or PHL 462 (Contemporary Ethics) or PHL 463 (Contemporary Metaphysics)
One additional 400-level course (This may be a directed readings course.)
15 additional semester hours at the 300-400 level

PROGRAM—A14: BACHELOR OF ARTS WITH A MAJOR IN PHILOSOPHY (PHL)[1]

	Semester Hours
Philosophy	33
Natural science	7
Mathematics	3
Social and behavioral science	12
Humanities	18
Religious studies	9
Foreign language or quantitative skill courses[2]	6-8
Communication skills	3-9
General education courses and electives to total at least	120

[1]See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

[2]Either 6-8 sem. hrs. in a foreign language or 6 sem. hrs. in quantitative skills courses (e.g., computer science, statistics, or mathematics) beyond the basic skills mathematics requirement. Where appropriate, this credit may apply to other requirements.

Minor Requirements: Beyond PHL 103, the philosophy minor consists of 15 semester hours of coursework, at least 12 of which must be at the 300-400 level. Of these, at least one course must be at the 400 level in addition to any 490 (directed readings) course that might be taken.

FACULTY

Lawrence P. Ulrich, *Chairperson*
Distinguished Service Professor: Baker
Professors: Herbenick, Kunkel, Monasterio, Nersoyan, Tibbetts, Ulrich
Associate Professors: Johnson, Payne, Quinn, Richards, Vallicella, Zembaty
Assistant Professors: Benson, Young

COURSES OF INSTRUCTION

Philosophy course offerings are classified as follows:

I. *Basic Course*
*PHL 103 Introduction to Philosophy (This course is a prerequisite for all other philosophy courses except PHL 201.)

II. *Human Nature, Values, and Ethics*
*PHL 304 Philosophy of Human Nature
*PHL 307 Philosophy and Women
*PHL 310 Social Philosophy
*PHL 311 Philosophy of Religion
*PHL 312 Ethics
*PHL 313 Business Ethics
*PHL 314 Philosophy of Law
*PHL 315 Medical Ethics
*PHL 316 Engineering Ethics
*PHL 317 Ethics and Nuclear War
*PHL 318 Family Ethics
*PHL 320 Philosophy of Art
*PHL 323 Philosophy of Literature
*PHL 331 Science, Objectivity, and Values

III. *Logic, Scientific Method, and Knowledge*
*PHL 201 Practical Logic
PHL 302 Symbolic Logic
*PHL 306 Philosophy of Knowledge
*PHL 308 Metaphysics
*PHL 330 Philosophy of Science

IV. *Great Ideas in Western Philosophy*
*PHL 350 Classic Greek Philosophy
*PHL 351 Classic Islamic, Christian, Jewish Philosophy
*PHL 352 Modern Philosophy
*PHL 353 Contemporary Philosophy

V. *Current Philosophic World-Views*
PHL 355 Eastern Philosophy
*PHL 356 Christian Philosophy
*PHL 358 Marxist Philosophy
*PHL 359 Phenomenology
*PHL 360 Existentialism
*PHL 361 American Philosophy
PHL 362 Philosophy of Language

VI. *Special Philosophy Courses*
PHL 340 Special Problems in Philosophy
PHL 390 Summer Nonresidence Course

VII. *Advanced Philosophy Courses*
PHL 431 Plato and Aristotle
PHL 432 Descartes and Hume
PHL 440 Advanced Problems in Philosophy
PHL 451 Seminar in Individual Philosophers
PHL 461 Philosophical Seminar—Contemporary Epistemology
PHL 462 Philosophical Seminar—Contemporary Ethics
PHL 463 Philosophical Seminar—Contemporary Metaphysics
PHL 490 Directed Readings

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*PHL 103. INTRODUCTION TO PHILOSOPHY: Introduction to philosophical reflection and study of some central philosophical questions in the Western intellectual tradition, including questions of ethics, human knowledge, God, and human nature. Major philosophers read include Plato, Descartes, Hume, and Mill. This course is a prerequisite for all other PHL courses except PHL 201. *3 sem. hrs.*

*PHL 201. PRACTICAL LOGIC: Introduction to the principles of correct reasoning; techniques for the evaluation of arguments; common fallacies in argumentation; applications to current issues in ethics and other areas. *3 sem. hrs.*

PHL 302. SYMBOLIC LOGIC: Concentrated study of the valid forms of deductive argument and proof in the propositional logic and in predicate logic; study of formal systems and of logic and language. *3 sem. hrs.*

*PHL 304. PHILOSOPHY OF HUMAN NATURE: The nature of human beings; the functions of consciousness, the possibility of freedom, the sources of values, and the goals of human life. *3 sem. hrs.*

*PHL 306. PHILOSOPHY OF KNOWLEDGE: Various criteria, origins, and definitions of knowledge proposed by common sense, science, philosophy, and mysticism; questions of evidence, consistency, and validity pertaining to the problem of truth and belief. *3 sem. hrs.*

*PHL 307. PHILOSOPHY AND WOMEN: Issues and problems related to feminist analysis of society and its ideals, such as equal opportunity, sex roles and gender, reverse discrimination, violence, and language. *3 sem. hrs.*

*PHL 308. METAPHYSICS: Issues and problems under such topics as appearance and reality; universals; relations of mind and matter; the nature of persons and personal identity; causality; freedom and determination. *3 sem. hrs.*

*PHL 310. SOCIAL PHILOSOPHY: The concepts of liberty, justice, and equality as they relate to social problems such as punishment and rehabilitation, insanity and responsibility, privacy, population regulation, economic injustice, environmental degradation, discrimination, and reverse discrimination. *3 sem. hrs.*

*PHL 311. PHILOSOPHY OF RELIGION: The main issues involved in religious belief and practice, such as the relationship between reason and revelation; critical presentation of views of main writers in the field. *3 sem. hrs.*

*PHL 312. ETHICS: Various types of moral and ethical theory in the Western tradition and major problems such as the extent of human responsibility and the conditions for making ethical judgments. *3 sem. hrs.*

*PHL 313. BUSINESS ETHICS: Review of general ethical theory; ethical assessments of incidents that often occur in commerce affecting employees, employers, consumers, competitors, or the local community. *3 sem. hrs.*

*PHL 314. PHILOSOPHY OF LAW: Major concepts of law to include the nature of law, legal reasoning, liberty, justice, responsibility, punishment. *3 sem. hrs.*

*PHL 315. MEDICAL ETHICS: Introduction to morality in general and inquiry into the major moral problems of medical practice: human life and the preservation of its integrity. *3 sem. hrs.*

*PHL 316. ENGINEERING ETHICS: Introduction to ethical issues in engineering by developing theories of moral justification and codes of ethics for engineers, and by applying these theories and codes to moral issues in engineering. *3 sem. hrs.*

*PHL 317. ETHICS AND NUCLEAR WAR: Study in applied ethics focusing on three aspects of the arms race: declassified data on the reality of the nuclear arms buildup; normative analysis of such themes as war, pacifism, just cause, deterrence, and nuclear proliferation; and moral assessment of alternatives for the future. *3 sem. hrs.*

*PHL 318. FAMILY ETHICS: Introduction to the development of the concept of a family in the tradition of Western philosophy and the philosophic analysis of contemporary ethical problems in marriage and in parenthood. *3 sem. hrs.*

*PHL 320. PHILOSOPHY OF ART: Theories of art and criteria of evaluation developed by philosophers, artists, and critics; the relationship between art and society and between artistic and other human values. *3 sem. hrs.*

*PHL 323. PHILOSOPHY AND LITERATURE: Critical examination of philosophical concepts in selected literary masterpieces, ancient and modern. *3 sem. hrs.*

*PHL 330. PHILOSOPHY OF SCIENCE: Study of the presuppositions and implications of scientific inquiry from a humanistic viewpoint; explanation in science, the relation between facts and theories, and problems of verification. *3 sem. hrs.*

*PHL 331. SCIENCE, OBJECTIVITY, AND VALUES: Study of three interrelated issues: the limits of scientific methodology; science as a social institution; and science and human values. *3 sem. hrs.*

PHL 340. SPECIAL PROBLEMS IN PHILOSOPHY: Examination of perennial and contemporary problems of philosophy. May be repeated when topic varies. *3 sem. hrs.*

*PHL 350. CLASSIC GREEK PHILOSOPHY: The Greek origins of Western scientific, philosophical, and political thought; relationships to current thought; ideas of the pre-Socratics, Plato, and Aristotle in their cultural contexts. *3 sem. hrs.*

*PHL 351. CLASSIC ISLAMIC, CHRISTIAN, JEWISH PHILOSOPHY: Major philosophical problems from the 4th through the 16th centuries and their importance in shaping current beliefs and traditions in the Augustinian, Jewish, Islamic, Persian, Thomist, and Oxford cultural settings; human action, conscience, freedom, and law. *3 sem. hrs.*

*PHL 352. MODERN PHILOSOPHY: Development of philosophy in the 17th, 18th and 19th centuries, with emphasis on problems in the theory of knowledge, the philosophy of mind, and the relation between knowledge and human action for their impact on later philosophy. *3 sem. hrs.*

*PHL 353. CONTEMPORARY PHILOSOPHY: A study of some of the major philosophical movements in the 20th century including phenomenology, existentialism, critical theory (Frankfurt School), hermeneutics, and analytic philosophy. *3 sem. hrs.*

PHL 355. EASTERN PHILOSOPHY: Introduction to the ways of Asian wisdom, considering Oriental philosophy as a specialized learning directed to the attainment of enlightenment and equanimity. *3 sem. hrs.*

*PHL 356. CHRISTIAN PHILOSOPHY: Major issues such as the relation of faith to reason, the relation of science to faith, and the problem of natural law; works by contemporary philosophers such as Kierkegaard, Marcel, Maritain, Noonan, and Plantinga. *3 sem. hrs.*

*PHL 358. MARXIST PHILOSOPHY: Introduction to the thought of Karl Marx through a study of the historical setting of the man and his writings, along with recent interpretations of his thought. *3 sem. hrs.*

*PHL 359. PHENOMENOLOGY: The historical origin of phenomenology, its nature, goals, and scope; impact on the social sciences, psychology, and psychiatry with emphasis on the thought of Husserl and his students. *3 sem. hrs.*

*PHL 360. EXISTENTIALISM: Major themes in representatives of the existentialist movement, such as human freedom, the absurdity of human existence, the primacy of action, and the roles of speculation and the emotions. *3 sem. hrs.*

*PHL 361. AMERICAN PHILOSOPHY: Introduction to selected writings of such classical American thinkers as Thoreau, James, Mead, Dewey, Santayana, and Whitehead. Topics include knowledge, freedom, and human values. *3 sem.hrs.*

PHL 362. PHILOSOPHY OF LANGUAGE: Theories of meaning and reference and their philosophical significance. *3 sem. hrs.*

PHL 390. SUMMER NONRESIDENCE COURSE: A course designed for those students regularly enrolled at the University of Dayton who cannot attend classes in the third term and are in good academic standing. Topics are determined by the professor. Prerequisite: Three sem. hrs. of philosophy. *3 sem. hrs.*

PHL 431. PLATO AND ARISTOTLE: Study of some philosophical problems raised by Plato and Aristotle and discussed in contemporary philosophy, such as justice and responsibility; certainty and necessity; the cause-reason distinction in explanations; or predication and being. Required of philosophy majors. *3 sem. hrs.*

PHL 432. DESCARTES AND HUME: Study of some philosophical problems raised by Descartes and Hume and discussed in contemporary philosophy, such as origin of ideas, existence of primary and secondary qualities, relationship of mind and body, scientific method, certainty, personal identity, causality. Required of philosophy majors. *3 sem. hrs.*

PHL 440. ADVANCED PROBLEMS IN PHILOSOPHY: Detailed examination of some of the more technical problems of philosophy as well as those problems that arise in interdisciplinary settings upon which philosophers have brought their technical skills to bear. May be repeated when topic varies. *3 sem. hrs.*

PHL 451. SEMINAR IN INDIVIDUAL PHILOSOPHERS: Detailed examination of the thought of an individual philosopher (e.g., Aquinas, Kant, Rawls, Quine) who is of sufficient importance to warrant special study. May be repeated when topic varies. *3 sem. hrs.*

PHL 461. PHILOSOPHICAL SEMINAR — CONTEMPORARY EPISTEMOLOGY: Study of recent philosophical work in the theory of knowledge inclusive of scepticism, knowledge and belief, evidence and justification, theories of perception and knowledge, human interests and valuation. Required of a philosophy major unless PHL 462 or 463 is taken. *3 sem. hrs.*

PHL 462. PHILOSOPHICAL SEMINAR—CONTEMPORARY ETHICS: Study of recent philosophical work in ethics inclusive of an analysis of ethical concepts, theories of normative ethics, theories of human action, and moral justification. Required of a philosophy major unless PHL 461 or 463 is taken. *3 sem. hrs.*

PHL 463. PHILOSOPHICAL SEMINAR — CONTEMPORARY METAPHYSICS: Study of recent work in metaphysics inclusive of the nature of metaphysics, causality, free will and determinism, personal identity and the theory of mind and body. Required of a philosophy major unless PHL 461 or 462 is taken. *3 sem. hrs.*

PHL 490. DIRECTED READINGS: Guided independent study primarily for philosophy majors but open to students who have completed 12 sem. hrs. in philosophy. Normally, 3 sem. hrs., but in certain cases the chairperson may approve 1, 2, or 4 sem. hrs. May be repeated when topic varies. Prerequisite: Permission of the instructor and the chairperson. *3 sem. hrs.*

*General education course. See Chapter V.

PHOTOGRAPHY (PHO)

Any student interested in photography as a major or minor field should consult with the head of the Photography Division or the chairperson of the Department of Performing and Visual Arts.

Requirements for the major are outlined below in Programs A15 and A16. For a minor in photography, the student takes 18 semester hours: PHO 101, PHO 201, and 12 semester hours of upper-level courses.

Fees are noted in course descriptions if required. These are variable. Information on current fees is obtainable in the Photography Office.

PROGRAM—A15: BACHELOR OF ARTS WITH A MAJOR IN PHOTOGRAPHY (PHO)[1]

Dept.	*No.*	*Course*	*Semester Hours*	
		Freshman Year	*1st Term*	*2nd Term*
PHO	100	Freshman Seminar	0	
PHO	101	Basic Photography	3	
PHO	201	Intermediate Photography		3
PHO	315	History of Photography		3
ART	112	Principles of Design	3	
ENG	101-102	College Composition I and II	3	3
HST	101 or 102	History of Western Civilization	3	
SPE	101	Fundamentals of Effective Speaking		3
—	—	General education or breadth requirements	3	3
			15	15
		Sophomore Year		
PHO	302	Color Photography I	3	
PHO	330	Photographic Techniques		3
PHO	—	Photography elective		3
PHY	108-108L	Physical Science of Light and Color	4	
—	—	General education and breadth requirements	9	9
			16	15
		Junior Year		
PHO	410	Advanced Photography	3	
PHO	—	Photography elective		3
ART	—	Choose one: 103, 104, 216, 226, 253, 254		3
MTH	—	Mathematics requirement	3	
—	—	General education and breadth requirements	9	9
			15	15
		Senior Year		
PHO	460-461	Senior Seminar	3	3
PHO	—	Photography electives	3	3
—	—	Breadth requirements and electives	9	8
			15	14

		Semester Hours
Communication skills		3-9
Major Program—Required courses	30	
Photography electives	12	
Total in major program		42
Breadth requirements—Natural science	7	
Mathematics	3	
Social and behavioral science	12	
Humanities	18	
Philosophy and/or religious studies	12	
Total breadth requirement		52
General education requirements[2] and academic electives to total at least		120

[1]See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

[2]Courses taken as part of the general education requirement may also fulfill the breadth requirement. Check with program advisor.

PROGRAM—A16: BACHELOR OF FINE ARTS WITH A MAJOR IN PHOTOGRAPHY (PTY)

Dept.	*No.*	*Course*	*Semester Hours* *1st Term*	*2nd Term*
		Freshman Year		
PHO	100	Freshman Seminar	0	
PHO	101	Basic Photography	3	
PHO	201	Intermediate Photography		3
PHO	315	History of Photography		3
ART	112	Principles of Design	3	
ENG	101-102	College Composition I and II	3	3
SPE	101	Fundamentals of Effective Speaking		3
HST	101 or 102	History of Western Civilization	3	
—	—	General education and breadth requirements	3	5
			15	17
		Sophomore Year		
PHO	302	Color Photography I	3	
PHO	310	Slide-Tape Production	3	
PHO	—	Choose one: 320, 321, 322		3
PHO	330	Photographic Techniques		3
PHO	415	Recent History of Photography		3
ART	103 or 104	Introductory Drawing	3	
PHY	108-108L	Physical Science of Light and Color	4	
MTH	—	Mathematics		3
—	—	General education and breadth requirements	3	4
			16	16
		Junior Year		
PHO	402	Color Photography II	3	
PHO	410	Advanced Photography	3	
PHO	—	Photography electives	6	8
ART	472	Art in the Twentieth Century		3
ART	—	Choose one: 216, 226, 253, 254		3
—	—	General education and breadth requirements	3	3
			15	17

		Senior Year		
PHO	460-461	Senior Seminar	3	3
PHO	—	Photography electives	8	9
—	—	General education and breadth requirements	6	5
			17	17

Communication skills 3-9
Major Program—Required courses 47
Photography electives 31
Total in major program 78
Breadth Requirements[1]—Natural science-mathematics .. 7
Social-behavioral science 6
Humanities 15
Philosophy and/or religious studies 12
Total breadth requirement 40
General education requirements[2] and academic electives to total at least[3] ...130

[1]Check with program advisor for distribution of breadth requirements.
[2]See Chapter V. Courses taken as part of the general education requirements may also fulfill the breadth requirement. Check with program advisor.
[3]A minimum of 54 sem. hrs. must be completed in upper-level (300-400) courses.

FACULTY

Patrick S. Gilvary, *Chairperson, Department of Performing and Visual Arts*
Sean Wilkinson, *Head of Photography Division*
Associate Professor: Wilkinson
Assistant Professor: Teemer
Instructor: Wilbers
Part-time Instructors: Grant, Patterson, Peterson

COURSES OF INSTRUCTION

PHO 101. BASIC PHOTOGRAPHY: Fundamentals of black-and-white still photography: camera function, exposure, film processing, and printing. Emphasis on gaining sound technical and creative control of the medium. No previous experience required. Studio fee. *3 sem. hrs.*

PHO 201. INTERMEDIATE PHOTOGRAPHY: Specific projects to increase technical competence and expand visual awareness. Exposure, film processing and printing variables, basic lighting, and view camera controls. Prerequisite: PHO 101 or equivalent. Studio fee. *3 sem. hrs.*

PHO 250. CREATIVE PHOTOGRAPHY GALLERY: First-hand experience in operating a photography gallery of sound reputation. Selecting and hanging exhibits, correspondence with photographers represented, production of publicity material. *2 sem: hrs.*

PHO 302. COLOR PHOTOGRAPHY I: Introduction to theory and techniques of color transparency, color negative, and color printing. Individual practice in lighting, color emulsions, filtration, and corrections. Prerequisite: PHO 201. Studio fee. *3 sem. hrs.*

PHO 310. SLIDE-TAPE PRODUCTION: Use of black-and-white or color transparencies, theory, copy techniques, masking, mounting, titling, storyboard techniques, and sound recording and editing techniques. Students produce a slide tape show using projectors, dissolve units, and audio equipment. Prerequisite: PHO 201 or permission. Studio fee. *3 sem. hrs.*

PHO 315. HISTORY OF PHOTOGRAPHY: The technical and aesthetic history of photography, from the camera obscura through the 1930's; changing perception of the medium and its development as an art form and as social document. Film rental fee. *3 sem. hrs.*

PHO 320. STUDIO LIGHTING: Extensive practical experience in both tungsten and electronic flash lighting techniques. Still-life and portrait photography. Prerequisite: PHO 201. Studio fee. *3 sem. hrs.*

PHO 321. STILL-LIFE PHOTOGRAPHY: Tungsten and electronic flash lighting techniques in the studio. Large and medium format cameras; primarily black and white films. Prerequisite: PHO 201. Studio fee. *3 sem.hrs.*

PHO 322. PORTRAIT PHOTOGRAPHY: Studio and outdoor portrait and fashion techniques with natural, tungsten, and electronic flash lighting; all camera formats; personal and formal approaches. Prerequisite: PHO 201. Studio fee. *3 sem. hrs.*

PHO 330. PHOTOGRAPHIC TECHNIQUES: Experiments and discoveries in the control of photographic materials. Relationships and variables in photographic chemistry and print manipulation, uses of graphic arts, and nonsilver imagery. Prerequisite: PHO 201. Studio fee. *3 sem. hrs.*

PHO 350. VIEW CAMERA AND ZONE SYSTEM: Extensive experience with the view camera, examination of refined techniques, various applications, and concepts of large format photography. Prerequisite: PHO 201. Studio fee. *3 sem. hrs.*

PHO 380. BIO-MEDICAL PHOTOGRAPHY INTERNSHIP I: The first half of a full year's commitment to thorough training in the work of the bio-medical photographer. Practical experience at a local hospital. See also PHO 480. Prerequisites: PHO 201, 302, 320, 410, 420. Studio fee. *3 sem. hrs.*

PHO 390. SPECIAL PROBLEMS IN PHOTOGRAPHY: Series of assignments to guide independent study in photography, formulated to meet individual needs of the student. Prerequisites: PHO 201 and permission. Studio fee. *1-5 sem. hrs.*

PHO 402. COLOR PHOTOGRAPHY II: Further study of the techniques and aesthetics peculiar to color photography. Straightforward and manipulated printing methods; masking, color analysis, chemical variations, and alternative processes such as dye transfer. Prerequisite: PHO 302. Studio fee. *3 sem. hrs.*

PHO 410. ADVANCED PHOTOGRAPHY: Students with a substantial commitment to photography and with demonstrated technical skills work on individual projects and participate in group critiques and discussion. Prerequisites: PHO 201, 302, 315. Studio fee. *3 sem. hrs.*

PHO 412. ADVANCED AUDIO-VISUAL PRODUCTION: Techniques and methods in the production of professional quality slide and tape presentations. Advanced skill development and theory. Prerequisite: PHO 310. Studio fee. *3 sem. hrs.*

PHO 415. RECENT HISTORY OF PHOTOGRAPHY: The many directions of creative, documentary, and illustrative photography from the end of World War II to the present. Prerequisite: PHO 315. *3 sem. hrs.*

PHO 420. PHOTOJOURNALISM: A variety of ways of using photography as documentation, narrative, and propaganda. Editing of work, layout, and image-text relationships. Personal photographic essay required. Prerequisite: PHO 201. Studio fee. *3 sem. hrs.*

PHO 425. ADVANCED PHOTO JOURNALISM: Continued study of photography in the printed news media. Assignments based on actual working situations; emphasis on professional capabilities. Prerequisite: PHO 420. Studio fee. *3 sem. hrs.*

PHO 430. COMMERCIAL AND ILLUSTRATIVE PHOTOGRAPHY: Commercial, industrial, architectural, and illustrative photographic work both in the studio and on location. Individual practice in solving problems associated with professional photography. Prerequisites: PHO 320 and permission. Studio fee. *3 sem. hrs.*

PHO 435. ADVANCED COMMERCIAL PHOTOGRAPHY: Further development of skills and content introduced in PHO 430. More detailed and sophisticated aspects of photographic illustration and commercial photography. Prerequisite: PHO 430. Studio fee. *3 sem. hrs.*

PHO 450. PHOTOGRAPHY INTERNSHIP: Practical applications of photographic skills. Opportunities for advanced development and practical experience in professional working environments. Repeatable up to 9 sem. hrs. *1-3 sem. hrs.*

PHO 460-461. SENIOR SEMINAR: Each senior photography major completes a thesis-like body of work. Detailed individual critiques. Requirements include participation in a group exhibition in a recognized gallery and completion of a professional-quality portfolio. Studio fee. *3 sem. hrs. each*

PHO 480. BIO-MEDICAL PHOTOGRAPHY INTERNSHIP II: The second half of a full year's commitment to thorough training in the work of the bio-medical photographer. Practical experience at a local hospital. See PHO 380. Prerequisites: PHO 201, 302, 320, 380, 410, 420. Studio fee. *3 sem. hrs.*

Photography studio fees—$65-$80
Film rental fees—$15

PHYSICAL SCIENCE (PSC)

The Physical Science Program is administered by the Department of Physics. It provides a broad training in the physical sciences that is desirable for one who plans to pursue a goal built on a composite science background. The physical science major combines adequate physics, chemistry, geology, and mathematics to provide for the student a sound working knowledge of physical science. Since the program is less specialized than one in a single science, it has provision for adequate course selections and sufficient electives to provide the opportunity for concentrated study in a discipline chosen to meet the career objectives of the individual student. The academic advisors work closely with students in this program.

PROGRAM—S10: BACHELOR OF SCIENCE WITH A MAJOR IN PHYSICAL SCIENCE (PSC)[1]

	Semester Hours
Basic physics: PHY 206, 207, 208, 210L, 211L, 214	13
Basic chemistry: CHM 123, 123L, 124, 124L	8
Basic geology: GEO 115, 115L, 116, 116L	8
Basic mathematics: MTH 101, 118, 119, 218, 219	19
Upper-level physical sciences (at least 12 sem. hrs. in physics)	24
Philosophy and/or religious studies	12
Humanities	9
Social and behavioral sciences	6
Communication skills	3-12
College Composition (ENG 101, 102), Effective Speaking (SPE 101), and Computer Programming (CPS 144). Some of these requirements can be waived if the student has demonstrated proficiency.	
General education courses and academic electives to total at least	120

[1]Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

SAMPLE FRESHMAN PROGRAM

Dept.	*No.*	*Course*	*1st Term*[1]	*2nd Term*
PHY	100	Freshman Seminar	1-0-0	
MTH	101	Pre-Calculus Mathematics	4-0-4	
MTH	118	Analytic Geometry and Calculus I		4-0-4
CHM	123-124	General Chemistry I and II	3-0-3	3-0-3
CHM	123L-124L	Chemistry Laboratory	0-3-1	0-3-1
PHY	206	General Physics I		3-1-3
PHY	210L	General Physics Laboratory I		0-3-1
ENG	101-102	College Composition I and II	3-0-3	3-0-3
—	—	General education requirements	6-0-6	
			17	15

[1]For example, 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. of credit.

PHYSICS (PHY)

The program leading to the Bachelor of Science with a major in Physics is designed to provide a strong, yet versatile, basis for a subsequent scientific career or advanced study. Minimum requirements for all majors are listed below, but students planning for graduate work in physics or an allied area are advised to select additional mathematics courses and additional physics courses similar to those shown in the sample program. A physics major must complete all 300-400-level courses with a 2.0 minimum grade-point average. The grade-point average for all physics courses must also be at least 2.0.

For the major in physics a formal minor is not necessary. If one is chosen, it can be in any academic area of the University with the provision that the student has the permission of the chairperson of the Department of Physics and the chairperson of the minor field. The physics program is flexible, even permitting a second major with the above provisions. Students planning graduate study in allied areas such as medicine, engineering, applied mathematics, computer science, law, and business should use the minor or second major and open electives to gain competence in the discipline of interest. Students in other disciplines who wish to minor in physics may take 12 semester hours of any upper-level physics courses.

An attractive feature of the physics program is the opportunity for upper-level students to gain experience by involvement with the faculty and staff in their research efforts through the Undergraduate Research Participation projects. Prospective majors are encouraged to write or visit the Department of Physics for more detailed information. New students are invited to confer with the chairperson to plan individual programs.

PROGRAM—S11: BACHELOR OF SCIENCE WITH A MAJOR IN PHYSICS (PHY)[1]

	Semester Hours
Physics	37
Basic courses: PHY 206, 207, 208, 210L, 211L, 214	13
PHY 301, 303, 314, 390, 408, 430, 431, and 300-400-level electives	24
Mathematics: MTH 118, 119, 218, 219, 302	18
Chemistry: CHM 123, 124, and associated laboratory	8
Philosophy and/or religious studies	12
Humanities	9
Social and behavioral sciences	6
Communication skills	3-12
College Composition (ENG 101, 102), Effective Speaking (SPE 101), and Computer Programming (CPS 144). Some of these requirements can be waived if the student has demonstrated proficiency.	
Minor (300-400-level courses) if chosen	12
General education courses and academic electives to total at least	120

[1]Consult General Requirements for All Bachelor of Science Programs, and Chapter V for General Education Requirements.

SAMPLE PROGRAM[1]

Dept.	No.	Course	1st Term[2]	2nd Term
		Freshman Year		
PHY	100	Freshman Seminar	1-0-0	
PHY	206-207	General Physics I and II	3-1-3[2]	3-1-3
PHY	210L-211L	General Physics Laboratory I and II	0-3-1[2]	0-3-1
MTH	118-119	Analytic Geometry and Calculus I and II	4-0-4	4-0-4
CHM	123-124	General Chemistry I and II	3-0-3	3-0-3
—	—	Communication skills[3]	3-0-3	3-0-3
—	—	General education requirements	3-0-3	3-0-3
			17	17
		Sophomore Year		
PHY	208	General Physics III	3-0-3	
PHY	214-314	Electronics I and II	1-3-2	1-3-2
PHY	321	Atomic and Nuclear Physics[4]		3-0-3
MTH	218-219	Calculus III, Differential Equations	4-0-4	3-0-3
CHM	123L-124L	Chemistry Laboratory	0-3-1	0-3-1
—	—	Communication skills[3]	3-0-3	3-0-3
—	—	General education requirements	3-0-3	3-0-3
			16	15
		Junior Year		
PHY	301	Thermal Physics	3-0-3	
PHY	303-403	Intermediate Mechanics I and II	3-0-3	3-0-3
PHY	390	Quantum Mechanics		3-0-3
PHY	430-431	Advanced Laboratory	0-4-2	0-4-2
MTH	302	Linear Algebra and Matrices	3-0-3	
—	—	General education requirements	3-0-3	6-0-6
—	—	Minor[5]	3-0-3	3-0-3
			17	17
		Senior Year		
PHY	404	Optics[4]		3-0-3
PHY	408-409	Intermediate Electricity and Magnetism I, II[4]	3-0-3	3-0-3
PHY	421	Solid State[4]		3-0-3
PHY	432-433	Advanced Laboratory[4]	0-4-2	0-4-2
—	—	General education requirements	6-0-6	
—	—	Electives[6, 7]	3-0-3	3-0-3
—	—	Minor[5]	3-0-3	3-0-3
			17	17

[1]Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

[2]For example, 3-1-3 signifies 3 hrs. lecture, 1 hr. recitation, 3 sem. hrs. credit; 0-3-1 signifies 0 hrs. lecture, 3 hrs. laboratory, 1 sem. hr. credit.

[3]Students should show proficiency in composition by the end of the freshman year, and facility in speech and computer programming by the end of the sophomore year.

[4]In this example, 37 upper-level sem. hrs. in the major are shown (24 required).
[5]Consult department chairperson concerning minor.
[6]Electives can be used for developing a second major or a second minor, for special problems courses (PHY 399, 499), or as "free" electives.
[7]In this example program, 133 total sem. hrs. are shown; the minimum required is 120 sem. hrs. With some summer work, advanced credit by examination, etc., a student can complete the program in 3½ or possibly even 3 academic years.

FACULTY

J. Michael O'Hare, *Chairperson*
Distinguished Professor: Bueche
Professor Emeritus: Mann
Professors: Graham, Kepes, Miner, O'Hare, Schneider, Yaney
Associate Professor: Berney
Assistant Professors: Craver, Erdei
Adjunct Professor: Grant
Adjunct Assistant Professor: Murray
Laboratory Instructor: Streiff

COURSES OF INSTRUCTION

PHY 100. SEMINAR: Opportunity to become acquainted with the broad spectrum of modern science through periodic meetings with the entire department. Invited speakers, films, student presentations, book reviews, and informal discussions. For all physics and physical science majors. *No credit*

*PHY 105. PHYSICAL SCIENCE: Broad introduction to physical science. Emphasis on concepts and scientific thought processes in dealing with principles in physics; some applications to chemistry, astronomy, and meteorology. Demonstrations and laboratory experiences. For nonscience students. Prerequisite: None. *4 sem. hrs.*

*PHY 108. PHYSICAL SCIENCE OF LIGHT AND COLOR: A treatment of physical science with emphasis on light, color, and the interaction of light with materials. For nonscience students. Prerequisite: None. *3-4 sem. hrs.*

PHY 108L. LIGHT AND COLOR LABORATORY: Laboratory experiences to accompany PHY 108. *1 sem. hr.*

*PHY 109. SCIENCE AND UNDERSTANDING: Directed readings, discussions, lectures, and the viewing of *Cosmos*, a film series using astronomy as a unifying theme, to gain insight into the nature of science as a human endeavor. For nonscience students. Prerequisite: None. *3 sem. hrs.*

*PHY 151-152. CONCEPTS IN PHYSICS: Basic background and appreciation of physics principles and concepts using a minimum of mathematical formalism; development of skills and knowledge to appreciate the place of science in contemporary society. For nonscience students. Prerequisite: None. *1-4 sem. hrs. each*

PHY 150L. PHYSICS LABORATORY: Laboratory experiences to accompany 100-level physics lecture courses. Corequisite: A physics course. *1 sem. hr.*

*PHY 201. GENERAL PHYSICS: Topics from mechanics, thermal and mechanical properties of matter, wave motion and sound, and electricity without the formalism of calculus. First term each year. *3 sem. hrs.*

PHY 201L. GENERAL PHYSICS LABORATORY: Introductory laboratory appropriate for students of the health sciences. Experimental scientific techniques and the use of standard laboratory equipment. One two-hour period per week. First term each year. Corequisite: PHY 201 or 206. *1 sem. hr.*

*PHY 202. GENERAL PHYSICS: Continuation of PHY 201 with a treatment of electricity and magnetism, wave motion and properties of light, atomic and nuclear physics. Prerequisite: PHY 201. Second term each year. *3 sem. hrs.*

PHY 202L. GENERAL PHYSICS LABORATORY: Experimental scientific techniques and the use of standard laboratory equipment. One two-hour period per week. Second term each year. Prerequisite: PHY 201L. *1 sem. hr.*

*PHY 203. MODERN TECHNICAL PHYSICS: Introduction to selected topics in modern physics without the formalism of calculus. For engineering technology students. Prerequisites: Trigonometry, college algebra, and introductory statics and dynamics. *3 sem. hrs.*

PHY 203L. TECHNICAL PHYSICS LABORATORY: Laboratory experiences to accompany PHY 203. *1 sem. hr.*

PHY 204. INTRODUCTION TO MEDICAL ELECTRONIC INSTRUMENTATION: Lecture and laboratory course introducing basic physical principles and practices encountered in the operation of some electronic instrumentation used in medical technology. For medical technology students. Prerequisite: None. *2 sem. hrs.*

*PHY 206. GENERAL PHYSICS I—MECHANICS: Introductory course in mechanics. Calculus concepts developed as needed. Three lectures, one recitation per week. Corequisite: MTH 118 or 112. *3 sem. hrs.*

*PHY 206H. GENERAL PHYSICS I—MECHANICS (HONORS): Introductory course in mechanics for students with a strong background in physics. Three lectures, one recitation per week. By invitation only. *3 sem. hrs.*

*PHY 207. GENERAL PHYSICS II—ELECTRICITY AND MAGNETISM: The basic principles of electricity and magnetism. Three lectures, one recitation per week. Prerequisites: PHY 206 or 201, MTH 118. *3 sem. hrs.*

*PHY 207H. GENERAL PHYSICS II—ELECTRICITY AND MAGNETISM (HONORS): Basic principles of electricity and magnetism. Three lectures, one recitation per week. By invitation only. *3 sem. hrs.*

*PHY 208. GENERAL PHYSICS III—MECHANICS OF WAVES: Introduction to wave phenomena (including sound, light, and matter waves) leading to basic concepts in modern physics. Prerequisites: PHY 207, MTH 119; or PHY 202, MTH 113. *3 sem. hrs.*

*PHY 208H. GENERAL PHYSICS III—MECHANICS OF WAVES (HONORS): Introduction to modern physics through a study of wave phenomena including sound, light, and matter waves. By invitation only. *3 sem. hrs.*

PHY 210L. GENERAL PHYSICS LABORATORY I: Introduction to laboratory methods, handling of data, and analysis of results. Experiments appropriate to the background of students with an interest in mathematical and physical sciences. Two hours laboratory, one hour recitation per week. Corequisite: PHY 206. *1 sem. hr.*

PHY 211L. GENERAL PHYSICS LABORATORY II: Laboratory methods, data handling, and analysis of results. Experiments appropriate to the background of students with an interest in mathematical and physical sciences. Two hours laboratory, one hour recitation per week. Prerequisite: PHY 210L. *1 sem. hr.*

PHY 214. ELECTRONICS FOR SCIENTISTS I: Introduction to electronic circuits with a consideration of D.C. and A.C. circuit analysis, diodes, bipolar and field-effect transistors, and other semiconductor circuit devices. Demonstrations and bench-top experience. Prerequisite: PHY 211L or 202L, or equivalent. *2 sem. hrs.*

*PHY 250. DESCRIPTIVE ASTRONOMY: Descriptive survey for students who have had little or no previous exposure to astronomy; material from ancient times to present, including pulsars and quasi-stellar objects. Prerequisite: None. *3-4 sem. hrs.*

PHY 299. SPECIAL PROBLEMS: Special topical courses, laboratory, tutorial, or library work in areas of current interest. Students should consult the composite. *1-4 sem. hrs.*

PHY 301. THERMAL PHYSICS: Thermodynamical descriptions of many particle systems obtained from microscopic statistical considerations; laws of thermodynamics, kinetic theory of dilute gases, and Fermi-Dirac and Bose-Einstein statistics. Corequisite: MTH 219. Prerequisite: PHY 208. *3 sem. hrs.*

PHY 303. INTERMEDIATE MECHANICS I: The fundamental concepts of mechanics: virtual work, kinematics, special theory of relativity. Lagrange's equation and central forces, particle dynamics. Corequisite: MTH 219. Prerequisite: PHY 208. *3 sem. hrs.*

PHY 314. ELECTRONICS FOR SCIENTISTS II: Continuation of PHY 214; thyristors such as SCR, linear IC, digital IC, and other discrete and integrated semiconductor circuit devices. Demonstrations and bench-top experience. Prerequisite: PHY 214. *2 sem. hrs.*

PHY 321. ATOMIC AND NUCLEAR PHYSICS: Concepts and models of the structure of matter; atoms, ions, electrons and nuclei, radioactivity, interactions of radiation with matter, particle detection, accelerators, nuclear models, nuclear reactions and processes, and fundamental particles. Prerequisite: PHY 208 or consent of instructor. *3 sem. hrs.*

PHY 390. INTRODUCTION TO QUANTUM MECHANICS: Basic postulates of quantum mechanics with applications made to atomic physics. Prerequisites: PHY 208, MTH 219, 302. *3 sem. hrs.*

PHY 395. RESEARCH PARTICIPATION I: Individual projects conducted as part of the physics Undergraduate Research Participation program to encourage involvement of students with faculty researchers. Projects must be arranged in advance with faculty research directors. *1-6 sem. hrs.*

PHY 399. SPECIAL PROBLEMS IN (NAMED AREA): Special topical courses, laboratory, tutorial, or library work in areas of current interest. Students should consult the composite. *1-4 sem. hrs.*

PHY 403. INTERMEDIATE MECHANICS II: Emphasis on solving physical problems; noninertial coordinate systems, rigid body motion, rotating systems, coupled systems, introductory fluid statics and dynamics, normal coordinates, and the descriptions of mechanics appropriate for the transition to wave mechanics. Prerequisite: PHY 303. *3 sem. hrs.*

PHY 404. PHYSICAL OPTICS: The electromagnetic wave theory of light, propagation of waves, reflection, refraction, dispersion, polarization, dichroism, birefringence, superposition of waves, interference, diffraction, Fourier optics. Prerequisites: PHY 208, MTH 219. *3 sem. hrs.*

PHY 408. INTERMEDIATE ELECTRICITY AND MAGNETISM I: Electrostatics, Coulumb's law, Gauss's law, potential, dielectric materials, electrostatic energy, solutions to Laplace's and Poisson's equations, Biot-Savart law, Faraday induction law, magnetization, and Maxwell's equations. Prerequisites: PHY 208, MTH 219. *3 sem. hrs.*

PHY 409. INTERMEDIATE ELECTRICITY AND MAGNETISM II. Further study of electric and magnetic fields with emphasis on solving problems; Maxwell's equations, propagation of electromagnetic waves, electromagnetic radiation. Prerequisite: PHY 408. *3 sem. hrs.*

PHY 420. INTRODUCTION TO SOLID STATE: Classification of solids, crystals and crystal structures, survey of lattice properties, free electron theory, band theory of solids, semi-conductors, and crystal imperfections. Prerequisites: PHY 208, MTH 219. *3 sem. hrs.*

PHY 430-431-432-433. ADVANCED LABORATORY: Experimental investigations based on principles from atomic and nuclear physics, electricity and magnetism, modern and classical optics, mechanics, solid state, cryogenics, x-ray diffraction, surface physics, or electronics. Not all experiments available every semester; consult chairperson for details. Prerequisite: PHY 214. Corequisite: An advanced course in physics. *2 sem. hrs. each*

PHY 440. QUANTUM MECHANICS II: Study of selected principles in quantum mechanics. Prerequisite: PHY 390. *3 sem. hrs.*

PHY 441. TOPICS IN MODERN PHYSICS: Elements of modern optics, solid state. and other selected subjects. Consult chairperson for details. Prerequisite: PHY 390 or equivalent. *3 sem. hrs.*

PHY 460. SEMINAR: Presentation of papers by undergraduate students, faculty, and guest lecturers on topics of concern to the modern physicist. Reviews of books and films appropriate to the group. *1 sem. hr.*

PHY 495. RESEARCH PARTICIPATION II: Individual projects conducted as part of the physics Undergraduate Research Participation program to encourage involvement of students with faculty researchers. Projects must be arranged in advance with faculty research directors. *1-6 sem. hrs.*

PHY 499. SPECIAL PROBLEMS IN (NAMED AREA) (HONORS): Laboratory, tutorial, or library work in one of such selected topics as solid state physics, polymers, atomic and nuclear physics, modern optics, theoretical physics, surface physics, or general physics. Prerequisite: Permission of department chairperson. *1-6 sem. hrs.*

*General education course. See Chapter V.

POLITICAL SCIENCE (POL)

A major in political science requires POL 201, 202 or 214, 207, 317, 421, and an additional 21 semester hours in political science including 18 semester hours at the 300-400 level. The advanced courses must be chosen in consultation with the advisor and in accordance with academic and career objectives. Students electing concentrations in pre-law, urban affairs, and public administration are encouraged to take POL 495, Internship. Students in the pre-law concentration may replace POL 207 with six semester hours in accounting (ACC 207-208 or ACC 301-302).

A minor in political science includes POL 201 and four 300-400 level courses selected by the student to strengthen academic or career objectives.

PROGRAM—A17: BACHELOR OF ARTS WITH A MAJOR IN POLITICAL SCIENCE (POL)[1]

	Semester Hours
Political science	36
Natural science	7
Mathematics	3
Social and behavioral sciences	12
Humanities	18
Philosophy and/or religious studies	12
Communication skills (ENG 101, 102, SPE 101)	3-9
General education courses and academic electives to total at least	120

[1]See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

MINORS AND AREA CONCENTRATIONS

A student may elect a minor in education under the E-11 Program or in any related discipline within the College of Arts and Sciences. The student must consult with the department administering the discipline for the particular requirements of a minor. In addition, the student may elect any *one* of the four multi-disciplinary concentrations in urban affairs, pre-legal training, international affairs, or public administration developed by the Department of Political Science.

I. *Urban Affairs*

Students are required to take POL 360, Urban Politics; SOC 351, Cities; and any three of the following courses:

BIO	399	The Bio-Ecology of Man, or
GEO	208	Environmental Geology
HST	355	American Urban History
PSY	342	Community Problems and Psychology
SOC	328	Racial and Ethnic Minorities
CRJ	401	Political Violence
ECO	445	Public Finance, or
ECO	485	Urban and Regional Economics

II. *Pre-Law*

Students are required to take POL 301, American Judicial Process, or POL 411, Constitutional Law, and at least one composition course (ENG 272 or 316 or 474) and three of the following courses:

ECO	204	Principles of Macroeconomics
ENG	___	Literature (ENG 203 or 204 or 205)
PHL	301	Practical Logic
SOC	326	Law and Society
SOC	327	Criminology

Students electing this concentration are encouraged to take POL 495, Internship in Law, to acquire practical experience in the legal profession or judicial process.

III. *International Affairs*

Students are required to take POL 202, Introduction to Comparative Politics, and POL 214, Introduction to International Politics, and any four of the following:

PSY	341	Social Psychology
ECO	450	Comparative Economic Systems
ECO	460	Economic Development and Growth
ECO	461	International Economics
HST	___	Upper-level electives

Choices of history electives should be based on the students' interests and career objectives. Students electing the concentration of international affairs are also encouraged to acquire competence in a foreign language and to participate in study-abroad programs.

IV. *Public Administration*

Students are required to take POL 305, Introduction to Public Administration; POL 306, Public Policy Analysis; POL 495, Internship in Government; and at least three of the following courses:

ACC	301	Financial Reporting and Administration
MGT	314	Personnel Management
MGT	318	Human Relations for Management
COM	301	Publicity and Public Relations
ENG	370	Report Writing, or
ENG	372	Applied Written Communication
PSY	334	Industrial Psychology
CRJ	447	Contemporary Issues in Justice Administration
SWK	337	Social Welfare Policy Services
ECO	445	Public Finance

V. *Political Journalism*

Students are required to take COM 120, Introduction to Mass Communication Media; JRN 206, Newswriting; and three of the following courses:

SPE	301	Speechwriting
SPE	314	Political Campaign Communication
JRN	301	Public Affairs Reporting
JRN	303	Interpretative and Feature Writing
COM	440	The Law and News Media

FACULTY

Gerald E. Kerns, *Chairperson*
Professor: Lapitan
Associate Professors: Ahern, Fogel, Karns, Kerns
Assistant Professors: Bilocerkowycz, Ghere, Inscho, Nelson
Adjunct Assistant Professors: Baker, Darvich, Hillman, Soter, Woy-Hazleton

COURSES OF INSTRUCTION

*POL 101. GOVERNMENT AND SOCIETY: Examination of the major types of contemporary political systems and the relationship between their ideological assumptions and the operational realities. Types examined are democratic capitalist, democratic socialist, communist, and fascist/statist. *3 sem. hrs.*

POL 201. THE AMERICAN POLITICAL SYSTEM: Study of the American political system, its attitudinal and constitutional base, its structure and processes. *3 sem. hrs.*

POL 202. INTRODUCTION TO COMPARATIVE POLITICS: Analysis of major concepts and approaches in the study of comparative government and politics. *3 sem. hrs.*

POL 207. POLITICAL ANALYSIS: Introduction to the basic concepts and processes of research in political science. *3 sem. hrs.*

POL 214. INTRODUCTION TO INTERNATIONAL POLITICS: Analysis of the dynamic forces of conflict and cooperation in world politics. *3 sem. hrs.*

POL 300. POLITICAL ISSUES: Introductory examination of contemporary political issues selected by the instructor; such topics as welfare, political morality, political campaigns, institutional reform, and political economy. *3 sem. hrs.*

POL 301. THE AMERICAN JUDICIAL PROCESS: Study of the American judicial system with emphasis on the courts and the bar; criminal and civil legal processes in detail. *3 sem. hrs.*

POL 303. STATE GOVERNMENT AND POLITICS: Comparative study of the political institutions, processes, and systems of the fifty states and their effect on the content and administration of selected public policies, programs, and services. *3 sem. hrs.*

POL 305. INTRODUCTION TO PUBLIC ADMINISTRATION: Basic principles of organization and management in executive departments of government at all levels; questions of planning, leadership, and control. *3 sem. hrs.*

POL 306. PUBLIC POLICY ANALYSIS: Introduction to public policy-making systems and the methodology of policy analysis; theories of policy formulation, the policy-making process, means for measuring policy effectiveness, analysis of proposals for policy change. *3 sem. hrs.*

POL 310. PARTIES AND INTEREST GROUPS: Descriptive analysis of the nature and interaction of parties and interest groups, and their role in the American political system. *3 sem. hrs.*

POL 311. PUBLIC OPINION AND POLITICAL BEHAVIOR: The formation, maintenance, change, and impact of public opinion in the American political system; the role of theory and analysis of data in understanding public and political behavior. *3 sem. hrs.*

POL 313. THE AMERICAN PRESIDENCY: Study of the American presidency, the development of presidential powers, and its leadership role in the political system. *3 sem. hrs.*

POL 317. DEVELOPMENT OF POLITICAL THEORY: Analysis of selected theorists and political doctrines forming the tradition of Western thought on politics and society. Theorists including Plato, Aristotle, the Stoics, St. Augustine, St. Thomas Aquinas, Machiavelli, Hobbes, Locke, Rousseau, Burke, Hegel, Marx, and Lenin presented in their historical and sociopolitical contexts. *3 sem. hrs.*

POL 320-327. COMPARATIVE POLITICS: Analysis of governmental institutions and political processes of selected countries in each of the following areas:

POL 320—Western Europe
POL 321—Soviet Union
POL 322—The Far East
POL 323—Latin America
POL 324—Southern Asia
POL 325—The Middle East
POL 326—Africa
POL 327—Southern Europe

3 sem. hrs. each

POL 360. URBAN POLITICS: Study of the nature of urban political systems in the U.S. with emphasis on explanation of differences in their policy responses. *3 sem. hrs.*

POL 406. INTERNATIONAL LAW AND ORGANIZATION: Study of rules governing the community of nations; their nature, sources, and development; the international agencies responsible for their development, interpretation, and administration. *3 sem. hrs.*

POL 408. AMERICAN FOREIGN POLICY: Critical study of the American foreign policy process and evaluation of the substances of American foreign policy. *3 sem. hrs.*

POL 409. SOVIET FOREIGN POLICY: A broad introduction to the Soviet Union's relationship with the West: political, economic, and military cooperation and competition. *3 sem. hrs.*

POL 410. COMPARATIVE FOREIGN POLICY: Comparative analysis of the foreign policies of major states with emphasis on the process of policy development and on the national and international determinants of policy behaviors. *3 sem. hrs.*

POL 411. CONSTITUTIONAL LAW: Analysis of the role of the U.S. Supreme Court in its interpretation of the Constitution. Emphasis on the various methods of judicial interpretation as they affect such provisions as the commerce clause, the taxing and spending powers, due process, the dimensions of presidential and congressional authority, and the doctrine of judicial review. *3 sem. hrs.*

POL 413. THE POLITICS OF BUREAUCRACY AND REGULATION: Examination of the nature and meaning of bureaucracy in contemporary American society and the devices for its evaluation and control. *3 sem. hrs.*

POL 414. LEGISLATIVE POLITICS: Study of the U.S. Congress, its organization and procedures, and its powers and influence in the political system. *3 sem. hrs.*

POL 421. SEMINAR IN POLITICAL SCIENCE: Seminar on current problems and issues in political science. May be taken more than once when content changes. Prerequisite: Permission of professor. *3 sem. hrs.*

POL 431. INDEPENDENT STUDY AND RESEARCH: Individual reading and research on selected topics under faculty direction. Recommended for seniors only. Prerequisite: Permission of professor. *3 sem. hrs.*

POL 437. PROBLEMS IN INTERNATIONAL POLITICS: Focus on selected problems in international politics such as the causes of war, negotiation, the Middle East, and the North-South conflict. May be repeated as the topic changes. Prerequisite: POL 214 or permission. *3 sem. hrs.*

POL 450. CIVIL LIBERTIES: Analytical examination of civil liberties in the U.S. with emphasis on the Supreme Court as arbiter in the endless conflict between the demand for individual liberty and the needs of constitutional authority. *3 sem. hrs.*

POL 452. POLITICAL VIOLENCE: Consideration of theoretical approaches to understanding violent change in political institutions; the continuum between violence and nonviolence of revolution, revolt, campus dissent, and political assassination. Emphasis on the roles of criminal justice and government agencies in meeting dissent. (Same as CRJ 401.) *3 sem. hrs.*

POL 455. THE THEORY AND PRACTICE OF COMMUNISM: Consideration of the theory and practice of Communism, its relationship to Marxism the special impact of Lenin and Stalin, and the schisms within the Communist world since World War II, involving Tito, Mao, and Eurocommunism. *3 sem. hrs.*

POL 456. THEORY AND PRACTICE OF FASCISM: The psychological and attitudinal elements of fascism; its manifestations in Italy, Germany, Spain, France, and Austria; its relevance as a political phenomenon today. *3 sem. hrs.*

POL 457. POLITICAL CHANGE IN THE THIRD WORLD: Analysis of the concepts of development and change within the context of Third World nations; emphasis on the impact of modernization on political processes and change. *3 sem. hrs.*

POL 475. AMERICAN POLITICAL THOUGHT: Ideas that have shaped the American political system: Puritanism, the American Revolution, Hamiltonianism, Jeffersonianism, racism, nativism, social Darwinism, the New Deal, and contemporary liberalism and conservatism. *3 sem. hrs.*

POL 479. SELECTED TOPICS IN PUBLIC POLICY: Intensive examination of policy process, outcomes, and impact in an area or areas of American public policy selected by the instructor; such topics as transportation, education, welfare, national defense, urban and community development, civil rights, and science and technology. May be repeated once when topic changes. *3 sem. hrs.*

POL 495. INTERNSHIP: Supervised experience in government agencies and programs. Pre-law students are assigned to law firms and judicial chambers. Prerequisite: Permission of supervising professor. *3 sem. hrs.*

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*General education course. See Chapter V.

PREMEDICINE (MED) AND PREDENTISTRY (DEN)

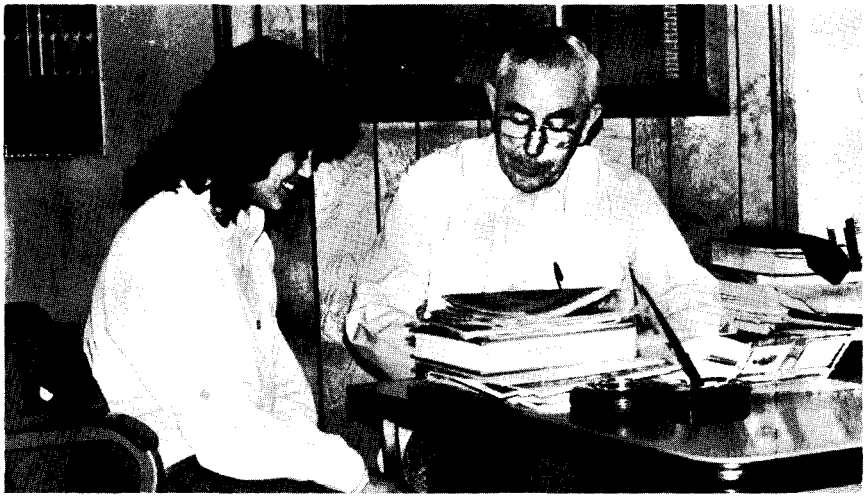
Students who intend to continue their education at the professional school level (medical, dental, osteopathic) should choose undergraduate majors that hold the greatest interest for them. The minimum academic requirements for admission to professional schools are met by a number of degree programs at the University of Dayton. Students with strong interests in biology or chemistry should enroll in Program S1 (B.S. in Biology) or Program A2 (B.A. in Chemistry) or S2 (B.S. in Chemistry). From an academic standpoint students in these and other science programs are as fully qualified for admission to professional schools as are those students who follow the formal premedicine-predentistry curriculum. These students may utilize all the premedical counseling and advisory facilities available at the University. However, in order to receive adequate counseling, they must declare their professional school intentions to a premedical-predental advisor as early as possible. (See list of advisors below.)

Program S12, the B.S. for premedical and predental students, is recommended for (1) students who have no strong interest in a conventional major and (2) students who wish to follow an abbreviated program prior to entrance to schools of occupational therapy, optometry, pharmacy, physical therapy, veterinary medicine, etc. The full four-year program meets the admission criteria (required and recommended courses) of all approved medical and dental schools. In addition to the basic sciences, it includes courses in the humanities and the social sciences. Students contemplating a career in medicine or dentistry should realize that preference is given to candidates who have the most complete education, as well as good scholastic standing. Program S12 offers a maximum choice of science and nonscience electives. Premedical-predental students can change to biology or (B.A.) chemistry majors during the junior year without any loss of semester hours.

The Premedical-Predental Faculty Committee is responsible for curriculum requirements, program changes, course advising, general counseling, and the preparation of recommendation letters that are required of all applicants to the health professional schools. The following professors are currently members of this committee: *Chairperson*—C. J. Chantell (Biology), T. P. Graham (Physics), C. I. Michaelis (Chemistry), J. M. Ramsey (Biology), K. C. Schraut (Mathematics), and S. S. Singer (Chemistry).

A chapter of the National Premedical Honor Society, Alpha Epsilon Delta, is established on campus. Both the Medical College Admissions Test and the Dental Aptitude Testing Program are usually administered on campus each spring and fall. All prospective medical, dental, and osteopathic school applicants must take these tests, usually in the spring of the junior year. Information about these tests may be obtained from the premedical-predental office.

The increasingly high admission standards for professional schools make it imperative that the premedical and predental student give full time to study. The undergraduate cumulative grade-point average is an important criterion in gaining admission to a professional school. The minimum acceptable cumulative average for most medical and dental schools is over 3.0. For this reason, the Premedical-Predental Faculty Committee conducts a sophomore evaluation of



all students enrolled in Program S12. Any student whose cumulative average after two years is below 2.8 will be advised to consider changing his or her major.

PREMEDICINE-PREDENTISTRY CURRICULUM SUMMARY

	Semester Hours
Specified science courses	45
Elective science courses	17
Communication skills	12
Philosophy and/or religious studies	12
Social-behavioral science	12
Humanities	12
General electives	16
	126

Science Courses

Major Concentration—Specified
BIO 151, 152, 152L, 201L
CHM 123, 123L, 124, 124L, 201, 201L, 313, 313L, 314, 314L
CPS 144 or 150
PHY 201, 201L, 202, 202L (May substitute PHY 206, 207, 208, 201L, 202L)
MTH 112, 113 (May substitute depending on background)

Major Concentration—Elective
Minimum of five lecture courses in biology, chemistry, computer science, mathematics (recommended choice from comparative anatomy, cell biology, embryology, genetics, microbiology, physiology, parasitology, physical chemistry, biochemistry, biostatistics). These science electives must be directly related to the major field of interest. Laboratory sections must accompany two of the science electives.

PROGRAM—S12: BACHELOR OF SCIENCE WITH A MAJOR IN PREMEDICINE (MED) OR PREDENTISTRY (DEN)[1]

Dept.	*No.*	*Course*	*1st Term*[2]	*2nd Term*
		Freshman Year		
BIO	100	Freshman Seminar	1-0-0	
BIO	151-152	Concepts of Biology	3-0-3	3-3-4
CHM	123-124	General Chemistry	3-3-4	3-3-4
MTH	112-113	Introductory Calculus[3]	3-0-3	3-0-3
ENG	101-102	College Composition I and II	3-0-3	3-0-3
SPE	101	Fundamentals of Effective Speaking		3-0-3
—	—	General education requirements[4]	3-0-3	
			16	17
		Sophomore Year		
BIO	201L	Biology Laboratory Investigations	0-3-1	
CHM	313-314	Organic Chemistry	3-3-4	3-3-4
PHY	201-202	Physics[5]	3-2-4	3-2-4
HST	101 or 102	History of Western Civilization	3-0-3	
—	—	General education requirements and electives	3-0-3	9-0-9
			15	17
		Junior Year		
CHM	201	Quantitative Analysis	2-4-4	
CPS	—	Computer science elective[6]		3-0-3
—	—	Science electives[7]	3-3-4	3-3-4
HST	—	History elective[8]	3-0-3	
ENG	—	English elective[9]		3-0-3
PHL	315	Medical Ethics		3-0-3
—	—	General education requirements and electives	3-0-3	3-0-3
			14	16
		Senior Year		
—	—	Science electives[7]	3-3-4	6-0-6
—	—	General education requirements and electives[10]	12-0-12	9-0-9
			16	15

[1]Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

[2]For example, 3-0-3 means 3 class hrs., 0 lab. hrs.; 3 sem. hrs. of credit.

[3]Placement test may necessitate initial course in precalculus (MTH 101). Depending on background and interests, two calculus sequences are available, MTH 112-113, MTH 118-119. Well qualified students are strongly advised to elect MTH 118-119. (See Mathematics Courses of Instruction.)

[4]Some general education courses are specified in the program (e.g., BIO 152, PHL 315); others are to be chosen from the listing of approved courses. See Chapter V.

[5]Well qualified students are strongly advised to take PHY 206-207-208 with PHY 201-202 laboratories.

[6]Select CPS 144 or 150.

[7]Recommend selection from BIO 309, 403, 407, 411, 412, 440, CHM 302, 420, 551, 552, CPS, MTH 215.

[8]Select HST 340 or 341.

[9]Select from ENG 203, 204, 205, 272, 316, 474, or, with advisor's permission, other ENG course that emphasizes writing.

[10]A full year of a modern foreign language is strongly recommended.

PSYCHOLOGY (PSY)

Psychology is the scientific study of behavior, and as such is a diverse field that touches all aspects of human endeavor.

The objectives of the Department of Psychology are to provide students with learning experiences in and out of the classroom which will increase their critical thinking skills, facilitate their acquisition of the body of knowledge inherent in the study of human behavior, equip them with its research methodology, and prepare them for employment or graduate school. The department is large enough to have all of the academic and social benefits that a university department can provide and small enough to provide individual attention to every student.

The Department of Psychology offers both the Bachelor of Arts and the Bachelor of Science. Each student, in consultation with an advisor, selects a program leading to either a Bachelor of Arts or a Bachelor of Science with appropriate elective credits according to individual interests and goals. The availability of both degrees allows the student to plan a double major or a major in psychology with a strong concentration of study in a related or complementary discipline.

Each psychology major must complete PSY 101, 216, and 217 early in his or her academic career. The remaining requirements are stated in the two outlines below. Exceptions to these requirements must be approved by the chairperson.

For a minor in psychology a student must complete PSY 101 and 12 semester hours of upper-level (300-400) courses and their prerequisites.

All graduate psychology (500-level) courses are open for credit to undergraduate students with permission of the advisor and the instructor. See the Graduate issue of the University Bulletin for a listing of graduate courses. Courses usually offered as combined undergraduate and graduate courses are so designated in the course descriptions.

PROGRAM—A18: BACHELOR OF ARTS WITH A MAJOR IN PSYCHOLOGY (PSY)[1]

	Semester Hours
Psychology requirements and electives	34
PSY 101, 216[2], 217	10
Select two courses from PSY 321, 322, 323, 422	6
Select two courses from PSY 341, 351, 361, 363	6
PSY electives	12-23
Natural sciences	7
Mathematics	3
Social and behavioral sciences[3]	12
Humanities	18
Philosophy and/or religious studies	12
Communication skills (SPE 101; ENG 101 and 102, or 114 or 198)	3-9
General education courses and academic electives to total at least	120

[1]See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

[2]May substitute MTH 207 or 215 for PSY 216. It is recommended that students who

have had fewer than 3 years of high school mathematics and/or are deficient in mathematics skills take MTH 107 before taking PSY 216.

[3]Courses exclusive of PSY.

PROGRAM—S13: BACHELOR OF SCIENCE WITH A MAJOR IN PSYCHOLOGY (PSS)[1]

	Semester Hours
Psychology requirements and electives	34
PSY 101, 216[2], 217	10
Select two courses from PSY 321, 322, 323, 422	6
Select two courses from PSY 341, 351, 361, 363	6
PSY electives	12-23
Natural sciences[3]	24
Mathematics 112 and 113[4]	6
Humanities[5]	9
Social and behavioral sciences[6]	6
Philosophy and/or religious studies	12
Communication skills (SPE 101; ENG 101 and 102, or 114 or 198)	3-9
General education courses and academic electives to total at least	120

[1]See Distribution Table for All Bachelor of Science Programs and Chapter V for General Education Requirements.

[2]May substitute MTH 207 or 215 for PSY 216. It is recommended that students who have had fewer than 3 years of high school mathematics and/or are deficient in mathematics skills take MTH 107 before taking PSY 216.

[3]Two 3-sem.-hr. natural science courses (BIO, CHM, GEO, PHY) with accompanying laboratories are required. The remaining 16 sem. hrs. may be fulfilled by courses in BIO, CHM, GEO, PHY, and CPS courses as well as by MTH courses beyond the departmental MTH requirement.

[4]May substitute MTH 101 for MTH 112 and MTH 112 for MTH 113.

[5]See advisor since graduate study often requires a foreign language.

[6]Courses exclusive of PSY.

FACULTY

Kenneth J. Kuntz, *Chairperson*
Professors: Butter, DaPolito, Polzella
Associate Professors: Allik, Berg, Biers, Bower, Jacobson, Katsumaya, Kimble, Korte, Kuntz
Assistant Professors: Champney, Fine
Adjunct Faculty: Kennedy, Rueth, Szoke, Thornton

COURSES OF INSTRUCTION

PSY 101. INTRODUCTORY PSYCHOLOGY: Study of human behavior including development, motivation, emotion, personality, learning, perception; general application of psychological principles to personal, social, and industrial problems. Students must participate in departmental research. *3 sem. hrs.*

PSY 216. ELEMENTARY STATISTICS: Basic probability and applied statistics: combinational arithmetic, binomial probability, measures of central tendency and dispersion, sampling, estimation, hypothesis testing, tests between means, linear regression, and correlation. Prerequisites: PSY 101 and MTH 107 or equivalents. *3 sem. hrs.*

PSY 217. EXPERIMENTAL PSYCHOLOGY: Basic concepts of scientific methods as applied to psychological problems. Experiments to familiarize students with application of scientific methodology to study of human psychological processes. Required of all psychology majors. Prerequisites: PSY 101, 216. *4 sem. hrs.*

PSY 251. HUMAN GROWTH AND DEVELOPMENT: Focuses on stages of human development from infancy through the aging adult. Emphasis is on various theoretical approaches and the development associated with each stage. Psychology majors may not take for credit toward major. Prerequisite: PSY 101. *3 sem. hrs.*

PSY 321. COGNITIVE PROCESSES: Information-processing approach to attention, perception, memory imagery, and thought. Theoretical structures including neuron modeling of higher cognitive and experimental process. Prerequisite: PSY 101. *3 sem. hrs.*

PSY 322. LEARNING: Foundations of the learning process. Classical instrumental paradigms and variants of each considered prior to investigations of complex learning. Prerequisite: PSY 101. *3 sem. hrs.*

PSY 323. PSYCHOLOGY OF PERCEPTION: Introduction to major theoretical and experimental work in perception, including visual, auditory, proprioceptive, and other sensory systems. Prerequisite: PSY 101. (Also PSY 529.) *3 sem. hrs.*

PSY 333. PSYCHOLOGICAL TESTS AND MEASUREMENTS: Survey of major tests of intelligence, aptitude, interest, and personality presently used in clinics, schools, personnel offices, and research settings. Emphasis on evaluation and comparison, rationale of construction, ethical considerations. Prerequisites: PSY 101, 216 or equivalent. *3 sem. hrs.*

PSY 334. INDUSTRIAL PSYCHOLOGY: Introduction to modern efforts to improve human performance in industrial organization and society; selection and placement of employees, morale, training, and incentives. Prerequisite: PSY 101. *3 sem. hrs.*

*PSY 341. SOCIAL PSYCHOLOGY: Survey of major theoretical and experimental work in the field; attitudes, conformity, emotions, group dynamics. Prerequisite: PSY 101. *3 sem. hrs.*

PSY 344. INTERPERSONAL RELATIONS: Social psychological research in nonverbal behavior, social exchange, self-disclosure, and interpersonal attraction and how these are related to developing relationships. Prerequisite: PSY 101. *3 sem. hrs.*

PSY 351. CHILD PSYCHOLOGY: Study of psychological processes from the developmental point of view; changes in perception, cognition, emotion, and social behavior from infancy to adolescence. Prerequisite: PSY 101. *3 sem. hrs.*

PSY 352. FIELD EXPERIENCE IN CHILD PSYCHOLOGY: Practical experience with a community agency providing instructional, recreational, or therapeutic services. Volunteer 3-5 hours weekly. Prerequisites: PSY 101 and previous or concurrent registration in PSY 351. Grade option 2 only. *1 sem. hr.*

PSY 355. PSYCHOLOGY OF THE EXCEPTIONAL CHILD: Survey of developmental theory and research related to childhood exceptionality, including major emotional disorders, giftedness, retardation, and the psychological implications of chronic physical illness and disorders of speech, vision, and hearing. Focus on etiology, identification, and intervention. Prerequisite: PSY 101. *3 sem. hrs.*

PSY 361. PERSONALITY: Introduction to the study of personality through theoretical views and clinical and experimental findings. Prerequisite: PSY 101. *3 sem. hrs.*

PSY 363. ABNORMAL PSYCHOLOGY: Patterns of disordered behavior; social, psychological, and physiological factors; theoretical explanations of abnormal behavior. Prerequisite: PSY 101. *3 sem. hrs.*

PSY 364. PSYCHOTHERAPY: Survey of current types of psychotherapy. Emphasis on similarities and differences in underlying theories of behavioral change and associated techniques. Prerequisite: PSY 101. *3 sem. hrs.*

PSY 367. BEHAVIOR MODIFICATION: Description of approaches to the modification of behavior integrating material from learning theory, abnormal behavior, and psychotherapy. Prerequisite: PSY 322 or equivalent. *3 sem. hrs.*

PSY 368. INTRODUCTION TO HEALTH PSYCHOLOGY: Survey of the application of psychology in health. Topics include psychophysiology and biofeedback, pain sensation, symptom perception, the psychological and social dimensions of health and illness, health decision making, and the influence of psychological and social support systems in health care utilization and in coping with stress and illness. Prerequisite: PSY 101 or equivalent. *3 sem. hrs.*

PSY 405. COMPUTER APPLICATION IN PSYCHOLOGY: Review of basic computing concepts and a computer language (BASIC, FORTRAN or Pascal). Use of computers by psychologists in statistical analysis, in everyday work, in the study of psychological principles; application of psychology to the design of computer systems. Prerequisites: PSY 101, CPS 144, CPS 150; or permission of instructor. Majors only. *3 sem. hrs.*

PSY 422. PHYSIOLOGICAL PSYCHOLOGY: Neurophysiological analysis of attention, sensation, perception, emotion, motivation, and learning. Electrophysiological methods are discussed. Prerequisite: PSY 101. *3 sem. hrs.*

PSY 423. COGNITIVE NEUROPSYCHOLOGY: Relationship between diseases of the central nervous system and cognitive disorders; asphasic disorders of language and speech; disorders of perception; disorders associated with brain damage. Prerequisites: PSY 101 and permission of instructor. *3 sem. hrs.*

PSY 431. INTERVIEWING AND COUNSELING: Techniques and theories of interviewing and counseling. Practice through role playing and case study. Prerequisite: PSY 101 or permission of the instructor. *3 sem. hrs.*

PSY 435. HUMAN FACTORS: Essential psychological concepts and methods to improve use of human efforts and equipment. Principles governing design of equipment for human use. Prerequisite: PSY 216. *3 sem. hrs.*

PSY 443. PSYCHOLOGY OF WOMEN: Scholarly approach to current topics, which vary but may include sex role learning, images of women in the mass media, sex differences, and the feminist movement. Open to all interested students, male and female. Prerequisite: PSY 101. *3 sem. hrs.*

PSY 452. COGNITIVE DEVELOPMENT IN CHILDREN: Major approaches to the study of cognitive development; attentional and mediational development in children's learning, memory, and problem solving; language development and Piaget's theory. Prerequisite: PSY 351 or permission of instructor. (Also PSY 574.) *3 sem. hrs.*

PSY 457. TELEVISION AND ITS EFFECTS ON CHILDREN: Readings in psychological research on the broad effects of television on children. Emphasis on analyzing and evaluating the research. Prerequisite: PSY 101. *3 sem. hrs.*

PSY 461. CURRENT IMPLICATIONS OF DRUG DEPENDENCY: Survey of effects, symptoms, treatment, casualties, and myths associated with drug use and abuse. Emphasis on existing treatment methods and psychological implications of drug dependency. Prerequisite: PSY 101. *3 sem. hrs.*

PSY 462 HUMAN SEXUAL BEHAVIOR: Psychological factors in human sexuality; psychosexual development, causes and treatments of sexual dysfunction, variations and deviations in sexual behavior. *3 sem. hrs.*

*PSY 471. HISTORY OF PSYCHOLOGY: The evolution of psychology from its origins in philosophy, science, clinical, and applied settings. Emphasis on integrating these systems and schools of thought with modern psychology. Prerequisite: PSY 101 or permission of instructor. (Also PSY 526.) *3 sem. hrs.*

PSY 493. INDEPENDENT STUDY: Problems of special interest investigated under faculty direction. Area and criteria for evaluation to be specified prior to registration. May be repeated for up to 6 sem. hrs. Prerequisite: Permission of instructor. *1-6 sem. hrs.*

PSY 494. READINGS IN PSYCHOLOGY: Directed reading in a specific area of interest, under faculty supervision. Topic and criteria for evaluation to be specified prior to registration. May be repeated for up to 6 sem. hrs. Prerequisite: Permission of instructor. *1-6 sem. hrs.*

Note: A total of no more than 6 sem. hrs. of PSY 493 and/or PSY 494 may be counted toward the required 34 sem. hrs. for a psychology major.

PSY 495. SPECIAL TOPICS IN PSYCHOLOGY: Topics of special interest to faculty and students; intensive critical evaluation of appropriate literature. Prerequisite: Permission of the instructor. *1-3 sem. hrs.*

*General education course. See Chapter V.

RELIGIOUS STUDIES (REL)

The Department of Religious Studies sees itself as a community of scholars serving the University community and the local community by teaching, research, criticism, and action. The main concern of the department is an understanding and elucidation of the Judaeo-Christian religious experience, as it is exemplified in the Roman Catholic tradition. This implies not only a deep investigation of the Roman Catholic position but also a dialogue with other Christian traditions and an exploration of the religious heritage of the human race.

The department realizes also that it cannot perform its function adequately if it isolates itself from other departments of the University. It, therefore, has engaged in and will seek to engage itself even more in interdisciplinary studies. The department, through its participation in the Sanders Judaic Studies Program, is able to offer special courses in this area.

Students majoring in religious studies must complete 36 semester hours in the Department of Religious Studies. A minimum of 24 semester hours are to be at the 300-400 level. At least 9 semester hours are to be at the 400 level. Students minoring in religious studies must complete 18 semester hours in the Department of Religious Studies. A minimum of 12 semester hours are to be at the 300-400 level. At least 3 semester hours are to be at the 400 level.

PROGRAM—A19: BACHELOR OF ARTS WITH A MAJOR IN RELIGIOUS STUDIES (REL)[1]

	Semester Hours
Religious studies	36
a. One course in each of these four areas:	
Biblical studies	
Historical theology	
Systematic theology	
Christian ethics—religion and culture	
b. Electives	
Natural science	7
Mathematics	3
Social and behavioral sciences	12
Humanities	18
Foreign language[2]	6-8
Philosophy	9
Communication skills	3-9
General education courses and academic electives to total at least	120

[1]See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

[2]Where appropriate, this credit may apply to the humanities breadth requirement.

FACULTY

Rev. James L. Heft, S.M., *Chairperson*
Professors: Boulet, Burns, Friedland, Frost, Kohmescher, L'Heureux, T. Martin, Roberts
Associate Professors: Anderson, Barnes, Hater
Assistant Professors: Doyle, Heft, Kozar, J. Martin, Thimmes, Zukowski

COURSES OF INSTRUCTION

Courses of instruction in religious studies are classified as follows:

I. *History of Religions*

REL 201 Religions of the World I
*REL 202 Religions of the World II
REL 301 The New Religions
REL 305 Ancient Near Eastern Religions
REL 307 Judaism
REL 406 Jewish Thought
REL 408 Issues in the History of Religions

II. *Biblical Studies*

*REL 211 The Old Testament in Modern Study
*REL 212 The New Testament in Modern Study
REL 311 Religion of Israel
REL 316 Synoptic Gospels
REL 317 Studies in St. John
REL 318 Studies in St. Paul
REL 411 The Prophets
REL 418 Biblical Issues

III. *Historical Theology*

REL 322 History of Early Christianity
REL 326 Protestant Christianity
REL 327 American Religious Experience
REL 428 Issues in Historical Theology

IV. *Systematic Theology*

*REL 140 Catholicism Today
*REL 146 Dynamics of Religion
REL 340 The Church—A Catholic Understanding
REL 341 Significance of Jesus
REL 343 The Sacraments—Mysteries of Christ
REL 349 Search for Immortality
REL 356 The Christian Tradition of Prayer
REL 438 Contemporary Theologies
REL 441 Theology of Mary
REL 442 Problem of God
REL 445 Issues of the Church Today
REL 447 Selected Catholic Doctrines
REL 448 Issues in Theology
REL 450 Religion and Science

V. *Christian Ethics—Religion and Culture*

*REL 150 Religion and Values
*REL 265 Christian Ethics
REL 362 Christian Family Values and Television
REL 364 Current Moral Issues
REL 365 Christian Marriage
REL 367 Christian Ethics and the Health Care Professions
REL 368 Christian Ethics and the Business World
REL 372 Religion and Film
REL 373 Religion and Literature
REL 374 Religion and Art
REL 463 Peace and Justice
REL 466 Theology of Sexuality
REL 478 Religion and Culture

VI. *Religious Education*

REL 383 Philosophy of Religious Education
REL 484 Practicum
REL 487 Teaching in Religious Education
REL 488 Spirituality and Religious Education

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*REL 140. CATHOLICISM TODAY: General introduction to current theological thinking on Catholic belief and practice. *3 sem. hrs.*

*REL 146. DYNAMICS OF RELIGION: Introductory description and analysis of the origins and functions of various forms of religion, including their effects on individuals and cultures. *3 sem. hrs.*

*REL 150. RELIGION AND VALUES: A study of the religious experience in various periods and various religious movements. Analysis and evaluation of the ordinary rather than the extraordinary experience of religiousness. *3 sem. hrs.*

REL 201. RELIGIONS OF THE WORLD I: Introduction to Far Eastern religious traditions, in particular Hinduism, Buddhism, Confucianism, Taoism, and Shintoism. *3 sem. hrs.*

*REL 202. RELIGIONS OF THE WORLD II: Introduction to religions originating in the Near East, in particular Zoroastrianism, Judaism, Christianity, and Islam. *3 sem. hrs.*

*REL 211. THE OLD TESTAMENT IN MODERN STUDY: Introduction to the historical and prophetic literature of the Old Testament, surveyed in the light of contemporary historical, literary, and form-critical methodologies. *3 sem. hrs.*

*REL 212. THE NEW TESTAMENT IN MODERN STUDY: Introduction to selected books of the New Testament, surveyed in the light of contemporary historical, literary, form-critical, and redaction-critical methodologies. *3 sem. hrs.*

*REL 265. CHRISTIAN ETHICS: Introduction to the reflection upon Christian morality; discussion of various approaches in Christian ethics, the elements of ethical judgments, and some specific ethical issues. *3 sem. hrs.*

REL 301. THE NEW RELIGIONS AND PERSONAL TRANSFORMATION: Experiential and holistic approach to contemporary movements that use ideas and techniques of Eastern religions to promote personal growth and transformation. *3 sem. hrs.*

REL 305. ANCIENT NEAR EASTERN RELIGIONS: Examination of the religions of the ancient Near East, with special attention to their relation to the Old Testament. *3 sem. hrs.*

REL 307. JUDAISM: Basic introduction to Judaism: its history, its faith, its worship. *3 sem. hrs.*

REL 311. RELIGION OF ISRAEL: Historical survey of the religious faith and practice of ancient Israel from the Age of the Patriarchs to the emergence of Judaism in the post-Exilic period; biblical traditions against the background of Ancient Near Eastern history and religion. *3 sem. hrs.*

REL 316. SYNOPTIC GOSPELS—EARLY LIVES OF JESUS: Each of the Synoptic Gospels offers a distinct view of the life and ministry of Jesus. Comparison of the Markan, Matthean, and Lukan interpretations of the person of Jesus, his function in the community, and his message to the people. *3 sem. hrs.*

REL 317. STUDIES IN ST. JOHN—REALIZATION OF HOPE: The Gospel of John proclaims the total fulfillment of God's promises and human expectations in Jesus Christ. Analysis of the theological argumentations of the fourth gospel and the significance of the Johannine position in view of the theology of hope. *3 sem. hrs.*

REL 318. STUDIES IN ST. PAUL—MODELS OF SALVATION: St. Paul's theology as the product of a man who was exposed to a diversity of religions, cultures, and ideologies. Discussion of topics, motifs, symbols, and structures in Pauline theology to disclose numerous possibilities for a Christian approach to life and death. *3 sem. hrs.*

REL 322. HISTORY OF EARLY CHRISTIANITY: Examination of the formative years of the early Christian Church (AD 30-130) in the context of political, social, and economic developments of the time. *3 sem. hrs.*

REL 326. PROTESTANT CHRISTIANITY: Survey of the development of Protestant thought from the Reformation. *3 sem. hrs.*

REL 327. AMERICAN RELIGIOUS EXPERIENCE: American Christianity, Protestant and Catholic, in American culture past and present: origins and expansion of American churches and the roles these churches have played in shaping American culture. *3 sem. hrs.*

REL 340. THE CHURCH—A CATHOLIC UNDERSTANDING: A biblical and theological study of the meaning of the Church which explores the relationship between Christ and the Church, the various models for understanding the Church, and the mission of the Church. *3 sem. hrs.*

REL 341. SIGNIFICANCE OF JESUS: Historical discussion of what has been thought about the person and significance of Jesus in the past, with emphasis on modern assessments of Jesus. *3 sem. hrs.*

REL 343. THE SACRAMENTS—MYSTERIES OF CHRIST: A study of the meaning of sacramentality. The sacraments in the context of Christ as the sacrament of the human encounter with God and in the context of the Church as the sacrament of Christ. *3 sem. hrs.*

REL 349. SEARCH FOR IMMORTALITY: An examination of how other disciplines regard the question of immortality and a theological evaluation of their insights. *3 sem. hrs.*

REL 356. THE CHRISTIAN TRADITION OF PRAYER: Study of several types and forms of Christian prayer from various periods in Church history. The meaning of the act of faith expressed in prayer and its relationship to belief. *3 sem. hrs.*

REL 362. CHRISTIAN FAMILY VALUES AND TELEVISION: Comparative study of the criteria and rationale for family life in various Christian pronouncements with present values and practices in society as reflected in and promoted by current television programming. *3 sem. hrs.*

REL 364. CURRENT MORAL ISSUES: An examination of one or more issues (individual and/or social) in contemporary reflection on Christian moral life. May be repeated when topic changes. *3 sem. hrs.*

REL 365. CHRISTIAN MARRIAGE: Analysis of the sanctifying dignity of Christian marriage as a sacrament and commitment to share in the divine creative plan. *3 sem. hrs.*

REL 367. CHRISTIAN ETHICS AND THE HEALTH CARE PROFESSIONS: Study of, and reflection upon, the principles of Christian ethics as these relate to the health care professions. *3 sem. hrs.*

REL 368. CHRISTIAN ETHICS AND THE BUSINESS WORLD: Study of, and reflection upon, the principles of Christian ethics as these relate to the business world. *3 sem. hrs.*

REL 372 RELIGION AND FILM: Study of issues common to narrative films and religious thought; the power of various film techniques, dominant models in religious and film reflection, the similar roles imagination plays in film and religious thought. *3 sem. hrs.*

REL 373. RELIGION AND LITERATURE: Joint study of literature and religion, seeking the sacred in the secular, discussing the doctrines of man and of God in major modern writings, especially those of current collegiate interest. *3 sem. hrs.*

REL 374. RELIGION AND ART: Investigation into the relationship between religion and art, treating Renaissance and post-Renaissance painting and sculpture as vehicles and manifestations of Christian apocalyptic and humanist world-views at given times. Basic literary sources of Christian art and effects of secularization on Christian art. *3 sem. hrs.*

REL 383. PHILOSOPHY OF RELIGIOUS EDUCATION: An attempt to construct a philosophy of religious education; various contemporary theoretical models, dimensions of teaching religion in a pluralistic society, the polarization generated. *3 sem. hrs.*

REL 392. SPECIAL QUESTIONS: Examination of issues pertinent to religion in either one or a series of courses. May be repeated when topic changes. *1-3 sem. hrs.*

REL 399. READINGS IN RELIGIOUS STUDIES: Directed readings in a specific area of interest under the supervision of a staff member. May be taken more than once. By permission only. *1-3 sem. hrs.*

REL 406. JEWISH THOUGHT: Historical development of Jewish thought from the close of the Old Testament canon down to modern times, with emphasis on selected movements and/or thinkers. *3 sem. hrs.*

REL 408. ISSUES IN THE HISTORY OF RELIGIONS: Examinations of current issues in the study of the history of religions. May be repeated when topic changes. *3 sem. hrs.*

REL 411. THE PROPHETS—RADICAL TRADITIONALISTS: The prophetic traditions of the Old Testament as an attempt to say that tradition can function in times of crisis. An attempt to understand the prophets and to question their contemporary validity. *3 sem. hrs.*

REL 418. BIBLICAL ISSUES: Examination of specific biblical themes, motifs, problems, and traditions. May be repeated when topic changes. *3 sem. hrs.*

REL 428. ISSUES IN HISTORICAL THEOLOGY: Examination of a specific issue in the development of Christian thought, such as Fathers of the Church, Reformation Theology, Modernism, and Vatican II. May be repeated when topic changes. *3 sem. hrs.*

REL 438. CONTEMPORARY THEOLOGIES: An examination of one or more of the major current schools of thought, such as process theology, theology of hope, neo-Thomism, Christian existentialism. May be repeated when topic changes. *3 sem. hrs.*

REL 441. THEOLOGY OF MARY: Study of the place of the Mother of God in the great truths of faith in the light of chapter eight of the Constitution on the Church. *3 sem. hrs.*

REL 442. PROBLEM OF GOD: Study of some recent contributions made by theology, philosophy, psychology, and the humanities to the current discussion of God's existence, nature, and relationship to humanity. *3 sem. hrs.*

REL 445. ISSUES OF THE CHURCH TODAY: Contemporary theological thought on an aspect of the mystery of the church today, e.g., nature of the church, sacraments, liturgy. May be repeated when topic changes. *3 sem. hrs.*

REL 447. SELECTED CATHOLIC DOCTRINES: Detailed study of several important current theological questions primarily from a Catholic systematic and historical perspective. *3 sem. hrs.*

REL 448. ISSUES IN THEOLOGY: Examination of an issue or theme of Christian faith in the light of modern knowledge and sensibilities, such as faith and doubt, or theology of death. May be repeated when topic changes. *3 sem. hrs.*

REL 450. RELIGION AND SCIENCE: Survey of the ways science has affected religion on specific doctrines, methods of knowing what is true, and general world views; study of religious response to these. *3 sem. hrs.*

REL 463. PEACE AND JUSTICE: Detailed investigation of various aspects of the relationship between peace and justice, including the dynamics of institutionalized injustice and analysis of it from the point of view of the Church's social teaching. Case studies. *3 sem. hrs.*

REL 466. THEOLOGY OF SEXUALITY: A study of sexuality as seen in the Judaeo-Christian tradition with emphasis on an understanding of recent theological approaches to sexuality and a theological critique of the findings presented by related disciplines. *3 sem. hrs.*

REL 478. RELIGION AND CULTURE: Examination of a specific issue in Western culture, especially American, in light of the Judaeo-Christian tradition, such as religion and music. May be repeated when topic changes. *3 sem. hrs.*

REL 484. PRACTICUM: Supervised in-service experience in an area of religious education chosen by the student. By permission only. *3 sem. hrs.*

REL 487. TEACHING IN RELIGIOUS EDUCATION: Study of religious education theory and practice for students who will be teaching religious education in the school and parish. Various models and methods of religious education. Emphasis on process and religious education as developmental. *3 sem. hrs.*

REL 488. SPIRITUALITY AND RELIGIOUS EDUCATION: Exploration of impact of liturgy and spirituality on contemporary models of religious education; study of interrelationship between faith experience and religious content: basic principles for developing practical programs. *3 sem. hrs.*

REL 490. SEMINAR: Research projects and discussions to help students integrate their university studies and relate them to their own future. Senior majors. Others by permission. *3 sem. hrs.*

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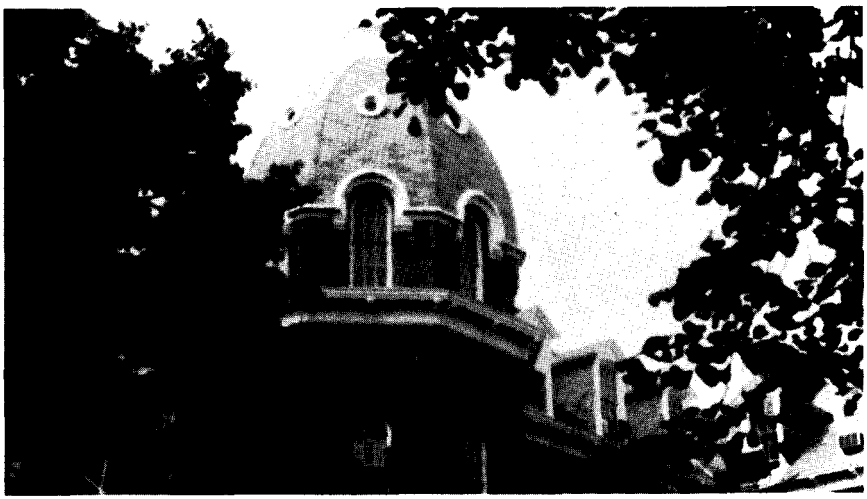
*General education course. See Chapter V.



SELF-DIRECTED LEARNING (SDL)

Self-Directed Learning provides an opportunity for students to design courses around their own needs and interests in consultation with members of the faculty. In line with the University's goals of individualizing and diversifying programs and making them more flexible, SDL offers students a wide range of options in both content and methods of learning. Students may earn from 6 to 17 semester hours per term in SDL, normally on the Satisfactory/No Credit grading option. Students may thus complement the usual college experience with an alternate approach to learning in which they place the responsibility for learning on their own shoulders and test their ability to direct themselves by designing and carrying out lines of study of their own choosing.

Regarding content: students may do work in areas not covered by regular course offerings. They may take a problem-centered rather than a discipline-centered approach.

Regarding method: SDL encourages students to use experiential and experimental approaches, to develop skills in learning how to learn, to strengthen intrinsic motivation and self-confidence, and to take initiative and responsibility for furthering their own learning. Students may utilize a variety of learning resources in addition to the classroom and library, namely field experiences, field trips, independent study, internships, individual and group projects, conferences, and work with community agencies and with community resource persons.

Each student works with a faculty advisor and a three-person evaluation committee which has the task of helping develop and evaluate the individual program and interpret the resultant learnings to the academic community.

Upon acceptance into the program, the SDL student registers for a block of ASI-SDL credit. At the end of the term, this block of credit is subdivided into the principal areas of learning. Appropriate titles are then listed on the student's transcript with the number of semester hours of credit awarded in each area. Student rationales, which describe the work of the semester and justify the credit awarded, are kept on file.

SDL work, recorded as Arts and Sciences Interdisciplinary (ASI) credit and designated ASI-SDL, may earn general elective credit, be used to satisfy breadth requirements, or, with permission of appropriate chairpersons, be given departmental credit. See also ASI.

STAFF

Bruce M. Taylor, *Director*
Janet Kalven, *Associate Director*

SOCIAL WORK (SWK)

The objectives of the social work program at the University of Dayton are (1) to provide opportunities for students to develop their intellectual and personal capacities for a value-committed, knowledge-based approach to social welfare issues, policies, and programs; (2) to offer a liberal-arts-based discipline that prepares students for graduate study in social work and for entry into the profession; (3) to provide opportunity for students to explore diverse life styles and achieve new knowledge and insights related to cultures, racial and ethnic groups, and value systems different from their own; (4) to prepare and motivate students to contribute to the identification and resolution of social problems.

The undergraduate social work program at the University of Dayton is fully accredited by the Commission on Accreditation of the Council on Social Work Education.

The program is designed to develop generalist practitioners who have the basic competencies for intervention in a variety of problem situations involving individuals, families, groups, organizations, and communities. The primary focus of the program is to educate and train generalist practitioners for urban settings.

The program is organized around a competency-based educational model. Specific learning objectives are stated for each course in the program and for the curriculum as a whole.

Students wishing to major or minor in social work are to consult with a social work faculty advisor. Students majoring in social work must complete a total of 47 semester hours in social work courses. Courses required include SWK 101, 201, 210, 320, 330, 337, 340, 350, 376, 377, 431, 432, and two social work electives. Those wishing to minor in social work must complete SWK 101 and 12 semester hours of upper-level social work courses and their prerequisites.

PROGRAM—S14: BACHELOR OF SCIENCE WITH A MAJOR IN SOCIAL WORK (SWK)[1]

	Semester Hours
SWK 101, 201, 210, 320, 330, 337, 340, 350, 376, 377, 431, 432	41
SWK electives	6
Communication skills (ENG 101-102, SPE 101)	3-9
Natural sciences (BIO 114, 395, with laboratories)	8
Mathematics-computer science (at least 3 sem. hrs. MTH)	6
Social and behavorial sciences (POL 201; PSY 101, 251; 3 sem. hrs. SOC)	12
Philosophy and/or religious studies	12
General education courses and electives to total at least	120

[1]Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

FACULTY

Sandra K. Moore, *Acting Director*
Associate Professor: McDonald
Assistant Professors: Moore, Ruffolo
Part-Time Instructors: Axiotes, Caplan

COURSES OF INSTRUCTION

*SWK 101. SOCIAL WELFARE AND SOCIETY: Study of the emergence of social welfare in contemporary society. Concept, structure, and functions of social welfare with emphasis on interrelationships among social systems; overview of current social welfare programs and a model for analysis of social services. *3 sem. hrs.*

SWK 201. INTRODUCTION TO SOCIAL WORK PRACTICE: The knowledge, values, and skills utilized by the social worker. Introduction to a generalist framework of practice and the problem-solving process in preparation for intervention with client systems, especially with ethnic and racial minorities in urban settings. An agency observational experience is required. Prerequisite: SWK 101. *4 sem. hrs.*

SWK 210. BASIC HELPING SKILLS IN SOCIAL WORK PRACTICE: Knowledge and skills essential to the social work helping process. Basic social work competencies in report writing, recording, introductory interviewing techniques, and the establishment of the professional relationship. Major emphasis on self-awareness and the professional use of self. Prerequisites: SWK 101, 201. *3 sem. hrs.*

SWK 320. ADVANCED SOCIAL WORK PRACTICE I: A variety of social work processes with opportunity to develop skill in choosing appropriate intervention strategies. Practice in implementing various models for working with client systems (individuals, families, and groups) in an urban setting. Prerequisites: SWK 101, 201, 210. *3 sem. hrs.*

SWK 324. CHILD WELFARE SERVICES: Scope, problems, and trends in social welfare services to children. The role of the social worker in protective service, foster care, adoption, group and institutional settings. Children's rights, permanent planning for children, and child advocacy. Prerequisite: SWK 101 or permission of director. *3 sem. hrs.*

SWK 330. SOCIAL WELFARE AND SOCIAL WORK IN A PLURALISTIC SOCIETY: Understanding of and appreciation for ethnic, racial and cultural diversity in a pluralistic society. The commonalities and differences in families and communities and the impact of racism on social work practice. Emphasis on the urban community. Prerequisites: SWK 101, 201, 210. *3 sem. hrs.*

SWK 333. LEGAL ASPECTS OF SOCIAL WORK: Orientation to the legal system as it affects the provision of human services and the profession; social legislation and court decisions as they affect child welfare, public assistance, mental health, housing, and probation and parole services. Prerequisite: SWK 101 or permission of director. *3 sem. hrs.*

SWK 337. SOCIAL WELFARE POLICY AND SERVICES: Study of how social welfare policies are developed and translated into social services. A framework for analysis applied to specific social policies. The role of the social work practitioner in analyzing and planning for social welfare. Prerequisites: SWK 101, 201, 210. *3 sem. hrs.*

SWK 339. CHILD ABUSE: Comprehensive study of child abuse: its history, scope, causal factors, indicators for detection, treatment resources and modalities, and community responsibility. Prerequisite: SWK 101 or permission of director. *3 sem. hrs.*

SWK 340. ADVANCED SOCIAL WORK PRACTICE II: Social work intervention strategies with organizations and communities; emphasis on skills needed for practice in an urban community. Prerequisites: SWK 101, 201, 210. *3 sem. hrs.*

SWK 350. HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT: Synthesis of theory and concepts from the biological, behavioral, and social sciences. Specific content from the cultural, social, and biopsychological systems integrated with the social work systems model and the implications for social work practice. Prerequisites: SWK 320, 340, all extra-departmental requirements for HBSE sequence. *3 sem. hrs.*

SWK 376. RESEARCH IN SOCIAL PROBLEMS: Empirical research methodology and statistics. Study of research design and statistical analysis; proposal writing and appropriate computer usage. Prerequisites: SWK 101, 201. *3 sem. hrs.*

SWK 377. SOCIAL WORK RESEARCH: Evaluation of social work practice and social welfare programs: program evaluation methods, social welfare policy research, proposal writing, and planning and evaluation of social welfare delivery systems. Prerequisite: SWK 376. *3 sem. hrs.*

SWK 422. PARENTING: SOCIAL WELFARE ROLE: Comprehensive study of historical and contemporary perspectives on parenting, future of parenting (assessing trends and choices in family structure and function), cross-cultural comparisons, policy and legal aspects of parenting, societal influences on parenting. Prerequisite: SWK 101 or permission of director. *3 sem. hrs.*

SWK 431. FIELD EXPERIENCE AND SEMINAR I: Practicum in which senior students demonstrate competencies learned in the classroom. Minimum of 15 hours of work per week in selected social agency under professional supervision. Concurrent with 15 hours of seminar. Open only to majors. Prerequisite: SWK 350. *5 sem. hrs.*

SWK 432. FIELD EXPERIENCE AND SEMINAR II: Practicum providing further opportunity to apply social work knowledge, values, and skills. Minimum of 15 hours of work per week in selected social agency under professional supervision. The final stage in preparation for beginning social work practice. Open only to majors. Prerequisite: SWK 431. *5 sem. hrs.*

SWK 443. DEATH, DYING, AND SUICIDE: Study of the phenomena of death and dying. The role and responsibility of the professional in working with the dying and their survivors. Study of suicide in this society. Open only to third- and fourth-year students. Second term each year. Elective credit. Prerequisite: SWK 101 or permission of director. *3 sem. hrs.*

SWK 455. SOCIAL SERVICES IN THE HEALTH FIELD: The role of social services in health care facilities and governmental health programs. U.S. health care policies and programs; methods of social work intervention in medical settings. Elective credit. Prerequisite: SWK 101 or permission of director. *3 sem. hrs.*

SWK 465. INDEPENDENT STUDY: Individual research, study, and readings on specific topics and/or projects of importance to social work practitioners, supervisors, and administrators. Under individual faculty direction. Prerequisite: Permission of program director. *3 sem. hrs.*

SWK 499. SPECIAL TOPICS: Exploration of special topics related to the field of human services. Assessment of appropriate literature and research. May be repeated as topics change. Prerequisite: Permission of director. *1-3 sem. hrs.*

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*General education course. See Chapter V.

SOCIOLOGY (SOC)

Sociology is the scientific study of social groups. Since groups come in all shapes and sizes, the subject matter of sociology ranges from the briefest of two-person interactions to the most enduring features of culture and society. The job of sociology is to look beyond the fragmented experience of individuals to the underlying structure and processes of society.

The objectives of the department are to develop analytical and critical skills, theoretical and factual information, and research methodology for future employment or graduate study.

Students majoring, minoring, or electing courses in the department do so for a variety of reasons. Some desire knowledge of social and cultural relationships as part of their general education. Others are planning careers in public service professions, human and community relations, or social research or planning. Others intend to pursue graduate work in sociology or anthropology.

Students intending to major or minor in sociology should consult with the departmental chairperson to plan their program of courses. Majors in sociology must complete 36 semester hours of course work in the department, 24 of which must be at the 300 or 400 level. We recommend that students begin the program of study with one of the following courses: SOC 101, SOC 204, or ANT 150. The requirements for majoring in sociology are stated in the outline below. A minor in sociology requires 15 semester hours of courses in the department, with at least 12 of those at the 300-400 level.

PROGRAM—A20: BACHELOR OF ARTS WITH A MAJOR IN SOCIOLOGY (SOC)[1]

	Semester Hours
Sociology: Entry-level course[2]; SOC 208, 303, 308, 308L, 409; ANT 300	16
Sociology electives[3]	20
Philosophy and/or religious studies	12
Communication skills	3-9
Natural science	7
Mathematics	3
Social and behavioral science	12
Humanities	18
General education courses and academic electives to total at least	120

[1]See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

[2]All freshman students should take either SOC 101, SOC 204, or ANT 150. All sophomore-level students or above should consult with the chairperson for the appropriate first course.

[3]For the major, at least 24 sem. hrs. must be upper level (300-400) with no more than 12 of the 24 sem. hrs. in upper-level anthropology courses.

For students wishing to focus their studies, the department offers two areas of concentration, in human relations and community relations. Human relations analyzes topics and issues affecting interpersonal communication and small groups. Students concentrating in human relations normally plan careers in human service organizations and commerce, in areas that require an understanding of interpersonal influence, small group dynamics, individual and group relationships, and interpersonal communication processes. Human relations specialists assist people experiencing difficulties with personal problems, substance abuse, interpersonal relationhips, and other problems where individual and small group counseling is useful.

Community relations deals with social issues and problems affecting groups and communities. Students concentrating in community relations usually plan careers in community organizations and social service agencies, in areas that require a grasp of the nature of group relations, public opinion, and social change. Community relations specialists organize groups concerned with social problems, facilitate constructive relations among community groups, make referrals to community resources, and cooperate with other organizations in long-range community planning.

I. *Human Relations*

Students are required to take
SOC 341, Self and Society; SOC 345, Small Group Dynamics; and any three of the following:

SOC 325 Deviant Behavior
SOC 331 Marriage and the Family
SOC 340 Principles of Sociological Social Psychology
SOC 342 Collective Behavior
SOC 444 Interaction Processes
ANT 310 Culture and Personality
ANT 315 Language and Culture

In consultation with the student's advisor, other appropriate courses may be substituted for courses in the above list.

II. *Community Relations*

Students are required to take
SOC 336, Organizations in Modern Society; SOC 351, Cities; and any three of the following:

SOC 322 Sex Roles and Society
SOC 323 Juvenile Delinquency
SOC 327 Criminology
SOC 328 Racial and Ethnic Minorities
SOC 333 Industry and Society
SOC 335 Social Implications of Aging
SOC 339 Social Inequality
SOC 343 Mass Communication in Modern Society
ANT 335 Urban Anthropology
ANT 406 Cultural Change

In consultation with the student's advisor, other appropriate courses may be substituted for courses in the above list.

FACULTY

Patrick G. Donnelly, *Chairperson, Department of Sociology and Anthropology*
Professor: Huth
Associate Professors: Bregenzer, L. Majka, T. Majka, Miller, Saxton
Assistant Professors: Donnelly, H. Pestello
Instructor: F. Pestello

COURSES OF INSTRUCTION

SOC 101. PRINCIPLES OF SOCIOLOGY: Study of social groups, social processes, and society; the individual's relationship to society, social structure, social inequality, ethnic minorities, cities and human populations, and social institutions such as the family, education, religion, and government. *3 sem. hrs.*

*SOC 204. MODERN SOCIAL PROBLEMS: Course to familiarize nonsociology majors with contemporary problems in society; historical development, current status, and analysis of problems, using modern social theories. Content may vary from section to section. *3 sem. hrs.*

SOC 208. SOCIAL INQUIRY: THE EMPIRICAL APPROACH: Description and analysis of the nature, use, and interrelationship of theory, theoretical problems, research questions, methods of empirical observation, and elementary data analysis techniques. *3 sem. hrs.*

SOC 303. MODERN SOCIAL THEORY: Consideration of the works of modern theorists and major trends in the history of social thought. *3 sem. hrs.*

SOC 304. EVALUATION RESEARCH METHODS: Training for students of social intervention. Practice in the formation of evaluative questions and techniques for answering these questions with demographic, survey, experimental and observational methods. Prerequisite: SOC 208. *3 sem. hrs.*

SOC 308. SOCIOLOGICAL RESEARCH METHODS: Advanced training in research problem formation, logic for research designs, measurement and sampling techniques, data gathering strategies, and data analysis and interpretation techniques. Prerequisite: SOC 208. Corequisite: SOC 308L. *3 sem. hrs.*

SOC 308L. DATA ANALYSIS LABORATORY: Application of research design, measurement and sampling techniques, and data analysis and interpretation. Appropriate computer techniques taught as part of the course. Prerequisite: SOC 208. Corequisite: 308. *1 sem. hr.*

SOC 321. THE SOCIOLOGY OF WORK AND OCCUPATIONS: Survey of the major features of work and occupations in industrial society. The meaning of work, occupational choice and recruitment, occupational socialization, career patterns, and occupational rewards. Unemployment, underemployment, sex-typing, automation and alienation. *3 sem. hrs.*

SOC 322. SEX ROLES AND SOCIETY: Research findings and major analytical approaches to study social and cultural influences on the development of personal sexual identity and relationships between men and women. Major social issues concerning human sexuality. *3 sem. hrs.*

SOC 323. JUVENILE DELINQUENCY: The environmental and internal factors that influence or determine delinquent behavior; roles of individual juvenile offenders, parents/guardians, school, church, police, business community, community agencies, and the juvenile justice and correctional system in preventing/treating delinquent behavior. *3 sem. hrs.*

SOC 325. DEVIANT BEHAVIOR: Description of various types of deviant behavior; for example mental illness, alcoholism, drug addiction, the professional criminal. Study of explanations for the consequences and the role of deviant behavior in modern society. *3 sem. hrs.*

SOC 326. LAW AND SOCIETY: Study of the legal system and practices from a sociological point of view; the historical origin and role of the law in society, issues relating to the law as an instrument of social control and/or social change; analysis of the legal profession. *3 sem. hrs.*

SOC 327. CRIMINOLOGY: Social and cultural nature, origin, and development of law; criminal behavior; crime control. The influence of society in the creation and organization of legal and crime control systems. Biological, psychological, and sociological factors leading to criminal behavior. *3 sem. hrs.*

SOC 328. RACIAL AND ETHNIC MINORITIES: Study of the major immigrant and racial groups in the United States and other countries. Issues and problems related to their minority status in the dominant culture. *3 sem. hrs.*

*SOC 331. MARRIAGE AND THE FAMILY: Historical, cross-cultural, and current study of social relationships during dating and courtship, interpersonal communication in marriage and family life, sexuality in marriage, adjustments in parenthood, divorce and remarriage, alternatives to traditional marriage, and the future of marriage and family life. *3 sem. hrs.*

SOC 332. SOCIOLOGY OF WOMEN: Cross-societal analysis of the position of women, with emphasis on industrialized and developing societies. The social positions of women and men in the family, work, politics, and the legal system. Consideration of theories of the biological, psychological, and sociological bases for the behavior and characteristics of women in the context of societal institutions. *3 sem. hrs.*

SOC 333. INDUSTRY AND SOCIETY: Social processes of industrialization; structure and characteristics of industrial society in the U.S.; past, present, and futuristic dimensions of industrial society; impact of industrialization on labor, management, government, family, community, and nation. *3 sem. hrs.*

SOC 334. RELIGION AND SOCIETY: Definitions of religion and its role in society. Traditional and nontraditional expressions of religious life from the viewpoint of society. Varieties of religious experience and the interrelations between religious phenomena and other social institutions and societal behavior. *3 sem. hrs.*

SOC 335. SOCIAL IMPLICATIONS OF AGING: Introduction to the study of the aged and the process of aging; mutual impact of society and the aged. *3 sem. hrs.*

SOC 336. ORGANIZATIONS IN MODERN SOCIETY: Analysis of the dynamics of organizations in modern industrial society. Topics include organizational social psychology, organizational structure and process, and organization-community relations. *3 sem. hrs.*

SOC 337. POLITICAL SOCIOLOGY: Analysis of politics and society; social origins of political economic systems; ideology and legitimation; political movements and social change. *3 sem. hrs.*

SOC 338. EDUCATION AND SOCIETY: Study of educational patterns in society; education as a socialization process, the role of schools in social change, and the relationship between the individual and the educational system. *3 sem. hrs.*

SOC 339. SOCIAL INEQUALITY: Study of social inequality in society. Emphasis on the processes that divide people into unequal groups based on wealth, status, and power. The effects of inequality on individual life chances and life styles. *3 sem. hrs.*

SOC 340. PRINCIPLES OF SOCIOLOGICAL SOCIAL PSYCHOLOGY: Survey of the basic principles, concepts, theories, and methods of social psychology from the sociological perspective. *3 sem. hrs.*

SOC 341. SELF AND SOCIETY: Theoretical and methodological study of micro-sociological processes; socialization, self conceptualization, deviant behavior, mental illness, power and social influence. *3 sem. hrs.*

SOC 342. COLLECTIVE BEHAVIOR: Study of social protest, crowds, social movements, revolution, fads, fashion, public opinion processes, propaganda, and political and social responses to these phenomena. *3 sem. hrs.*

SOC 343. MASS COMMUNICATION IN MODERN SOCIETY: Social-psychological analysis of the structure and processes of mass communication related to advertising, patterns of social behavior, social change, propaganda, censorship, media control, and social institutions. *3 sem. hrs.*

SOC 345. SMALL GROUP DYNAMICS: Study of small group structure and processes from a sociological point of view. Application of theoretical concepts and research findings to friendship groups, work groups, and family interaction. *3 sem. hrs.*

SOC 350. NATIONAL AND WORLD POPULATION TRENDS: Causes and consequences of national and world population trends; impact of population change on society; impact of social change on birth rates, death rates, migration, population composition and distribution. *3 sem. hrs.*

SOC 351. CITIES: URBAN COMMUNITIES, PROBLEMS, AND PLANNING: Concepts of community; the history of cities; the development and nature of urban-metropolitan society; metropolitan area structure, population characteristics, and life styles; approaches to major urban problems; models of urban planning in the U.S. and Europe. *3 sem. hrs.*

SOC 392. SELECTED TOPICS IN SOCIOLOGY: Examination of a current topic of general interest in sociology. Majors and nonmajors may enroll. Consult composite for topics. May be repeated once as topic changes. *3 sem. hrs.*

SOC 409. ADVANCED STUDY IN SOCIOLOGY: Intensive analysis of primary literature and recent developments in one of the following: Interpersonal Relations, Issues in Contemporary Society, Major Social Groupings, Urban Affairs and Population, Anthropology. Consult composite for term topic. May be repeated once as topic changes. Required for majors. Prerequisite: Permission of instructor. *3 sem. hrs.*

SOC 439. SOCIAL CLASSES IN MODERN SOCIETY: Study of social classes, social inequality, social mobility, prestige, power, and class conflict in modern industrial societies. *3 sem. hrs.*

SOC 444. INTERACTION PROCESSES: Advanced theoretical and methodological study of basic interaction processes that make up social life, including hypnosis, social influence (selling), negotiation, solidarity, competition, and conflict. *3 sem. hrs.*

SOC 492. SPECIAL TOPICS IN SOCIOLOGY: Intensive examination of current theoretical or methodological issues; faculty-advised research project or library work. Consult composite for topics. May be repeated once as topic changes. Prerequisite: Permission of instructor. *1 to 6 sem. hrs.*

SOC 498. INDEPENDENT STUDY: Research or special readings on problems of interest to the student under the guidance of sociology staff member. Prerequisite: Permission of the chairperson. *1 to 6 sem. hrs.*

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*General education course. See Chapter V.

SPEECH (SPE)

Speech courses are offered by the Department of Communication. See requirements and other courses of instruction under COM.

COURSES OF INSTRUCTION

SPE 101. FUNDAMENTALS OF EFFECTIVE SPEAKING: Introductory course in the fundamental skills of speaking. Development of self-confidence through speaking opportunities, with special attention to poise, vocal variety, physical animation, and the communication of ideas. *3 sem. hrs.*

SPE 206. FUNDAMENTALS OF BROADCASTING: Lectures dealing with broadcasting as a business and as a cultural influence; broadcast regulation, programming, and organization of typical radio and television stations. *3 sem. hrs.*

SPE 300. VOICE AND DICTION: The four phases of speech production: proper breathing, phonation, resonance, and articulation. Emphasis on projection, quality, and clarity of speech. Analysis of student's voice through tape recordings. *3 sem. hrs.*

SPE 301. SPEECH WRITING: Study of speech structure and composition. Critical analysis of model speeches, in conjunction with the preparation and presentation of original speeches on current public questions. *3 sem. hrs.*

SPE 303. RHETORIC OF SOCIAL MOVEMENTS: Examination of the rhetoric of contemporary advocates through application of the basic elements of argumentation and persuasion. *3 sem. hrs.*

SPE 310. ORAL INTERPRETATION: Oral interpretation of poetry and prose, combining study of vocal modulations, pitch, inflection, and tone color with intellectual and emotional analysis of selections. *3 sem. hrs.*

SPE 311. ADVANCED SPEAKING TECHNIQUES: Oral communication in professional situations. Adaptation of principles of effective speaking to specific audiences and occasions. Delivery of informational, problem-solving, and special-occasion speeches. *3 sem. hrs.*

SPE 312. PERSUASION: Analysis of the motivations that lead to belief and action of individuals and audiences. Study in the techniques of persuasion. Delivery of speeches in application of the theory. *3 sem. hrs.*

SPE 314. SURVEY OF NEW MASS COMMUNICATION TECHNOLOGIES: Examination of issues related to development, economics, programming, and the future of new mass communication technologies. Prerequisite: SPE 206. *3 sem. hrs.*

SPE 316. RADIO WORKSHOP: Laboratory in radio production techniques, including tape recording and editing, commercial structure, basic broadcast performance, and directing techniques. Prerequisite: SPE 206. Studio fee. *3 sem. hrs.*

SPE 320. ADVANCED ORAL INTERPRETATION: A continuation of SPE 310. Additional study in the techniques of group performance. Prerequisite: SPE 310. *3 sem. hrs.*

SPE 329. TELEVISION PRODUCTION: Intensive practice in preparation and production of television programs. Camera technique, floor set-ups, and direction of crews and talent demonstrated through participation in television shows. Prerequisite: SPE 316. Studio fee. *3 sem. hrs.*

SPE 410. BROADCAST NEWS: Study of the process and practice of news gathering, analysis, rewriting, and editing for the broadcast media. Theoretical background and practical application, including historical, legal, and ethical concerns for broadcast news personnel. Prerequisite: JRN 206. Studio fee. *3 sem. hrs.*

SPE 412. BROADCAST COMMERCIAL COPYWRITING: Study and application of principles of the differences between the two media as they affect commercial copy requirements. Prerequisite: SPE 206. *3 sem. hrs.*

SPE 414. BROADCAST AND CABLE PROMOTION. Study of cable company-initiated strategies and techniques to promote programs, stations, or networks as a means of building audience or advertisers. Building positive images of cablecasting in communities and markets. Prerequisite: SPE 314. *3 sem. hrs.*

SPE 416. BROADCAST PROGRAMMING: Study of the programming strategies and practices used by broadcast management for attracting television and radio audiences. Prerequisite: SPE 206. *3 sem. hrs.*

SPE 418. WRITING FOR ELECTRONIC MEDIA: Study of concrete approaches to and practice with the kinds of writing being done professionally in all program types on television and radio. Prerequisite: SPE 206. *3 sem. hrs.*

SPE 419. BROADCASTING PERFORMANCE: Participation in a selected series of broadcasting projects, including both radio and television performance. Prerequisites: SPE 316 and either 310 or 329. Studio fee. *3 sem. hrs.*

SPE 420. BROADCAST SALES: Examination of the basic aspects of radio and television sales, including agencies, station and network sales, and related problems and careers. Prerequisite: COM 304. *3 sem. hrs.*

SPE 429. ADVANCED TELEVISION PRODUCTION AND DIRECTING: Advanced principles and practice in television production and directing. Emphasis on the aesthetics involved in production of a visually appealing broadcast. Communication majors and minors only. Prerequisites: SPE 316, 329. Studio fee. *3 sem. hrs.*

SPE 450. RADIO AND TELEVISION STATION MANAGEMENT: Study of the organization and administration of the radio and television staff and station; the manager's role as applied to personnel, programming, sales, engineering, finances, and regulations. Prerequisite: MGT 305. *3 sem. hrs.*

TEACHER CERTIFICATION

COLLEGE BACCALAUREATE PROGRAM WITH TEACHER CERTIFICATION (E11A)

Students enrolled in the College of Arts and Sciences may enroll in the teacher education program (E11A) of the School of Education without transferring to the School of Education. The E11A program is designed for those students in the College of Arts and Sciences who wish to pursue secondary-school teaching certification and a major program of studies concurrently. Students admitted to the program must satisfy all the requirements for the Bachelor of Arts or Bachelor of Science in the College as well as the requirements designated by the School of Education and the State of Ohio for secondary school certification.

Teaching fields represented in the College of Arts and Sciences are Art, Biological Science, Chemistry, Communications (concentration in English or Speech), Earth Science, English, General Science, History, Language (Latin, French, German, Spanish, Italian), Mathematics, Music, Physics, Political Science, Social Psychology, Sociology, Speech, Theology (Religious Studies).

The education courses below constitute a minor concentration in the College degree program. They are listed in the order in which students usually take them. For course descriptions see EDT, Chapter VIII.

		Semester Hours
EDT 109	Personal Aspects of Teaching	2
EDT 110	The Profession of Teaching	2
EDT 207	Child and Adolescent in Education	3
EDT 208	Teaching and Learning	3
EDT 318	Human Relations in Education	2
EDT 351	Secondary School, Self, and Society	3
— —	Methods course (fall term only)	4
EDT 469	Reading in the Content Areas	2-3
EDT 420	Student Teaching: Secondary	12
EDT 419	Philosophy of Education	3

Application for admission to the program is made through the Office of the Dean of the College of Arts and Sciences after completion of the freshman year. Applicants should normally have a cumulative grade point average of at least 2.9 at the time of their application.

Counseling relative to the degree program is given by the student's major department; counseling relative to certification is given by the chairperson of the Department of Teacher Education or a designated advisor.

THEATRE (THR)

The Theatre Division of the Department of Performing and Visual Arts offers a solid academic foundation and an extensive program of theatre productions, including major productions in Boll Theatre and student experimental work in the Studio Theatre. The curriculum includes acting, directing, stagecraft, lighting, design, history, and theory. Its purpose is to provide opportunities and facilities for education and training in and understanding of theatre.

Theatre majors are required to audition for and participate in each major production, for which they receive credit in THR 100 or 300. All roles and stage positions are open to the entire University student body.

A minor in theatre requires a total of 21 semester hours: 3 in THR 105, Introduction to the Theatre; 3 in THR 100 or 300, Theatre Laboratory; 3 in theatre history or theory; and 12 additional at the 200 level and above.

PROGRAM—A21: BACHELOR OF ARTS WITH A MAJOR IN THEATRE (THR)[1]

Dept.	*No.*	*Course*	*Semester Hours* 1st Term	2nd Term
		Freshman Year[2]		
THR	099	Freshman Seminar	0	
THR	105	Introduction to the Theatre	3	
THR	205	Theatre Stagecraft		3
SPE	101	Fundamentals of Effective Speaking	3	
ENG	101-102	College Composition I and II	3	3
—	—	General education and breadth requirements[3]	6	9
			15	15
		Sophomore Year[2]		
THR	210	Acting I	3	
THR	211	Theatrical Movement I	2	
THR	330	Concepts of Scene Design	3	
THR	—	Major program elective		3
—	—	General education and breadth requirements	7	12
			15	15
		Junior Year[2]		
THR	100-300	Theatre Laboratory[4]		3
THR	325-326	Theory and Criticism of the Stage I or II	3	
THR	340	The Director in the Theatre		3
THR	—	Major program elective	3	
MTH	—	Mathematics requirement		3
—	—	General education and breadth requirements	6	3
—	—	General Electives	3	3
			15	15
		Senior Year[2]		
THR	415 or 425	History of the Theatre I or II	3	
THR	485 or 490	Theatre Seminar or Special Problems in Theatre	3	
THR	—	Major program elective		3
—	—	General electives	9	12
			15	15

	Semester Hours
Communication skills	3-9
Major Program—Required courses (including THR 100, 300)	29
Theatre electives	9
Total in THR	38
Breadth requirements—Natural science	7
Mathematics	3
Social and behavioral science	12
Humanities	18
Philosophy and/or religious studies	12
Total breadth requirement	52
General education[3] and academic electives to total at least	120

[1]See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

[2]Theatre Laboratory (THR 100 or 300) credit is granted each student who fulfills the 50-hour work requirement on a major production. This credit is granted retroactively.

[3]Courses taken as part of the general education requirements may also fulfill the breadth requirement. Check with program advisor.

[4]Theatre majors have 3 sem. hrs. of THR 100 or 300 applied toward the major requirement.

FACULTY

Patrick S. Gilvary, *Chairperson, Department of Performing and Visual Arts, and Head of Theatre Division*
Professor: Gilvary
Assistant Professor: Selka
Part-time Instructors: Anderson, Engel

COURSES OF INSTRUCTION

THR 100. THEATRE LABORATORY: Credit allowance for role playing and/or play production in major productions. Fifty hours of work minimum for one sem. hr. of credit. Repeatable up to 3 sem. hrs. in freshman-sophomore years. All registration retroactive. No advance registration. Three sem. hrs. from THR 100 or 300 required of all majors. *1-3 sem. hrs.*

THR 103. THEATRE APPRECIATION: Introduction to the art and artists of the theatre to enhance the nonspecialist playgoer's enjoyment of various productions. Open to all University students except theatre majors. *2 sem. hrs.*

*THR 105. INTRODUCTION TO THE THEATRE: Analysis of the nature of theatre, its origin, and development from the standpoint of the play, the physical theatre, and its place in our culture. Required of all majors. Open to all University students. *3 sem. hrs.*

THR 201. BASIC DANCE FOR THE PERFORMING ARTIST: Beginning course in movement introducing the basic principles of dance and performance technique. Open to all University students. *2 sem. hrs.*

THR 202. STAGE MAKEUP: The basic principles of the art and technique of makeup so that the student may use them in design and execution to develop and project the character. Open to all University students. First term. Studio fee. *2 sem. hrs.*

THR 205. THEATRE STAGECRAFT: Study and application of scene construction, rigging, backstage organization, production analysis, and technician-designer relationship. Required of all majors. Open to all University students. Studio fee. First term. *3 sem. hrs.*

THR 207. THEATRE LIGHTING: Study and application of lighting for the stage: instrument, controls, sources, elements of electricity, and lighting design for all types of theatres, as well as graph representation. Studio fee. *3 sem. hrs.*

THR 210. ACTING I: The study and practice of basic techniques in rehearsal and performance. Emphasis on self-analysis and self-awareness. Development of basic skills in vocal, emotional, and mental interpretation of character. Prerequisite: THR 105 or permission. Corequisite: THR 211. Required of all theatre majors. Open to all University students. *3 sem. hrs.*

THR 211. THEATRICAL MOVEMENT I: Special attention to the physical requirements of acting for the stage: balance, flexibility, coordination, control, and endurance. The study and practice of nonverbal skills in character portrayal. Corequisite: THR 210. Required of all theatre majors. Open to all University students. *2 sem. hrs.*

THR 251. HISTORY OF FILM I: The Silent Cinema—Analysis of the international development of film and performance styles in the silent era, including history and criticism of major directors and actors. Selected film screenings. Studio fee. *3 sem. hrs.*

THR 252. HISTORY OF FILM II: The Sound Cinema—Analysis of the effects of sound technology on cinema, including history and analysis of major films from the end of the silent era to the present. Selected film screenings. Studio fee. *3 sem. hrs.*

THR 261. BEGINNING JAZZ DANCE: Beginning course in the theory and practice of jazz dance. No prerequisite. *2 sem. hrs.*

THR 271. BEGINNING BALLET: Beginning course in the theory and practice of classical ballet technique. No prerequisite. *2 sem. hrs.*

THR 300. THEATRE LABORATORY: The third- and fourth-year level of credit allowance for role playing and/or play production. Requirements and registration same as for THR 100. *1-3 sem. hrs.*

THR 301. INTERMEDIATE DANCE FOR THE PERFORMING ARTIST: Intermediate-level course in movement for students interested in further developing dance and performance technique. Prerequisite: THR 201. *2 sem. hrs.*

THR 303. SCENE PAINTING: Basic principles of color paint theory and materials. Investigation of various scene-painting techniques. One three-hour class meeting weekly. Studio fee. Prerequisite: Permission. *3 sem. hrs.*

THR 323. ACTING II: Further study and practice of techniques introduced in Acting I. Emphasis on interaction, ensemble, group processes, and scene study. Corequisite: THR 324. Prerequisites: THR 105, 210, 211 or permission. *3 sem. hrs.*

THR 324. THEATRICAL MOVEMENT II: Continuation of THR 211. Emphasis on interpreting and employing body language. Corequisite: THR 323. Prerequisites: THR 105, 210, 211 or permission. *3 sem. hrs.*

THR 325. THEORY AND CRITICISM OF THE STAGE I: Survey of representative plays from classical to neo-classical periods as a basis for theatrical production and dramatic criticism. Prerequisite: THR 105. (THR 325 or 326 required of all majors.) First term each year. *3 sem. hrs.*

THR 326. THEORY AND CRITICISM OF THE STAGE II: Continuation of THR 325 from romantic to modern periods. Prerequisite: THR 105. (THR 325 or 326 required of all majors.) Second term each year. *3 sem. hrs.*

THR 330. CONCEPTS OF SCENE DESIGN: Studies in the principles of composition and aesthetic theory as applicable to scene design. Development of personal design approach to plays of various styles. Required of all theatre majors. *3 sem. hrs.*

THR 340. THE DIRECTOR IN THE THEATRE: The basic functions of a director in the production of play: interpretation, composition, movement, characterization, rhythm, design concept, and actor training. Required of all theatre majors. Prerequisites: THR 105, 205, 210, 211, 330. *3 sem. hrs.*

THR 350. THEATRE STYLES: Examination of the relationships among playwright, audience, actor, designer, and director in the development of major theatre styles of expression. First term each year and summer term alternate years. *3 sem. hrs.*

THR 351. BASIC FILM PRODUCTION: Introduction to scripting, photography, editing, and unsynchronized sound. Participation in film projects using student actors; responsibility for an individual project from concept to screening. *3 sem. hrs.*

THR 361. INTERMEDIATE JAZZ DANCE: An intermediate course in the theory and practice of jazz dance and technique. Prerequisite: THR 261 or equivalent. *2 sem. hrs.*

THR 371. INTERMEDIATE BALLET: Intermediate course in the theory and practice of classical ballet technique. Prerequisite: THR 271 or equivalent. *2 sem. hrs.*

THR 414. ADVANCED SCENE DESIGN: Individual development in scene design through intensive study in plays of various styles. Detailed representation of design ideas in rendering and models required. Prerequisites: THR 205, 207, 330. *3 sem. hrs.*

*THR 415. HISTORY OF THE THEATRE I: History of theatre from pre-Grecian through Elizabethan; the physical theatre as reflection of and influence on civilization. (THR 415 or 425 required of all majors.) Open to all University students. *3 sem. hrs.*

THR 424. PLAY DIRECTING: Study of the evolution of the modern director and the direction of two one-act plays or one full-length play. Prerequisite: THR 340. Studio fee. *3 sem. hrs.*

THR 425. HISTORY OF THE THEATRE II: Continuance of 415 from the Italian Renaissance to the modern theatre. (THR 415 or 425 required of all majors.) Open to all University students. *3 sem. hrs.*

THR 440. PROBLEMS IN THEATRE PRODUCTION AND DESIGN: Individual research and project work of student's selection under the direct supervision of faculty. Repeatable up to 12 sem. hrs. Prerequisite: Permission. *3 sem. hrs.*

THR 485. THEATRE SEMINAR: Concentration on one theatrical figure, genre, or period for research and analysis. (THR 485 or 490 required of all majors.) Second semester every other year. Repeatable up to 6 sem. hrs. *3-6 sem. hrs.*

THR 490. SPECIAL PROBLEMS IN THEATRE: Individual research and report on topic of student's choice in the field of theatre under direct supervision of faculty/staff. (THR 485 or 490 required of all majors.) Repeatable up to 15 sem. hrs. *3-5 sem. hrs.*

*General education course. See Chapter V.

WOMEN'S STUDIES (WST)

The interdisciplinary minor in women's studies provides a timely academic concentration appropriate to many majors and useful in many fields. As an academic pursuit, women's studies attempts to compensate for the traditional omission from many curricula of the historical and contemporary contributions of women. It also looks to the future, intending to enhance the dignity, worth, and effectiveness of all women.

The minor in women's studies consists of 13 to 15 semester hours. It must include the interdisciplinary seminar ASI 228, Focus on Women, and 12 semester hours in upper-division courses (300-level or above). The following courses are among those offered.

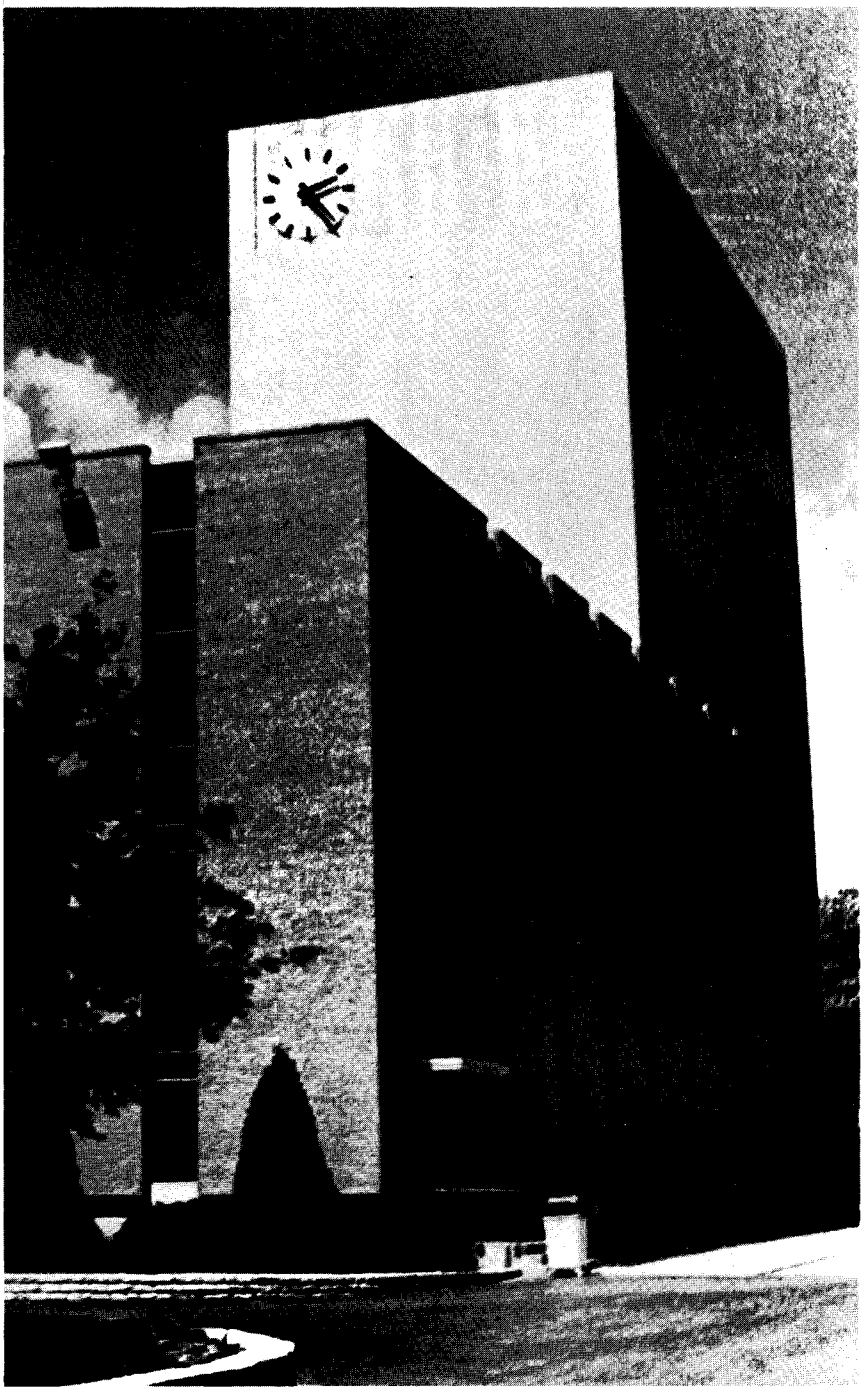
ASI	228	Focus on Women
ART	377	Women Artists
COM	404	Women in Communication
EDP	540	Women in Sport (may be taken for undergraduate credit)
ENG	214	Fiction: Women Writers
ENG	319	Contemporary Fiction: Women Writers
ENG	324	The Novel: Contemporary Women Novelists
ENG	329	The Short Story: Women Writers
ENG	333	Images of Women in Literature
ENG	380	Studies in Literature: Modern Women Poets
HST	351	American Feminism
MGT	440	Women in Management
PHL	340	Philosophical Issues in Feminism
PSY	443	Psychology of Women
REL	418	Biblical Issues: Male-Female in the Biblical World
REL	448	Women and Religion
SOC	322	Sex Roles and Society
SOC	332	Sociology of Women
SWK	499	Women's Issues in Social Welfare
UDI	222	Black Women in America
UDI	225	Rape: Breaking the Silence
UDI	226	Women in Science
UDI	243	Women in the Economy

In addition, independent study courses and self-directed learning (SDL) courses may be applicable. Topics courses in various departments may be applicable if they are readily identifiable as pertinent to women's studies.

Any student who wishes to be recorded as minoring in women's studies should notify his or her dean and the director of women's studies.

WOMEN'S STUDIES COMMITTEE

Lorraine M. Murphy (English), *Director of Women's Studies*
Jacobson (Psychology), Johnson (Philosophy), Kalven (Self-Directed Learning), May (History), E. Murphy (College of Arts and Sciences), Perkins (History), Schwelitz (Biology), Stockum (English)



VII School of Business Administration

Sam Gould, Dean
John E. Rapp, Associate Dean
Henry H. Stick, Associate Dean, Director of Graduate Program
Donald J. Hebeler, S.M., Administrative Assistant

The School of Business Administration operates in accord with the educational philosophy and purpose of the University. It believes that Judeo-Christian principles of thought and action are essential to a complete formation of an educated person. Through instruction and related activities it aims to develop in the students a moral excellence and firmness along with professional competence. It proposes to enhance the students' awareness of their obligations to themselves, their families, society, and God—an awareness that is fundamental to their total human development.

The School of Business Administration particularly seeks to develop that knowledge of business policies, problems, and procedures which will enable the students to take responsible places in the business and economic environment within which they must earn their livelihoods.

In order to insure the breadth of background demanded of successful business and community leaders, the students must complete work in humanities and general studies as well as in professional business courses.

ADMISSION TO THE SCHOOL OF BUSINESS ADMINISTRATION

The minimum requirements for admission to the School of Business Administration are the following:

1. Graduation from an accredited high school
2. The following units of college preparatory subjects:

English	4 units
Mathematics (Algebra I & II, Geometry)	3 units
Natural Science with a Laboratory	1 unit
Social Science	2 units

3. While students in the upper half of the graduating class are preferred, consideration also will be given to other students whose scores on the Scholastic Aptitude Test of the College Entrance Examination Board (SAT) or the American College Testing Examinations (ACT) indicate they are capable of completing the baccalaureate program of the School of Business Administration.
4. Any person whose native language is not English must submit an acceptable score in the Test of English as a Foreign Language (TOEFL). Exceptions to this policy may be made for students whose education has been in schools where English is the principal language of instruction.

TRANSFER STUDENTS

Candidates for admission from other accredited colleges or universities must ordinarily be in good academic standing in the colleges or universities from which they are transferring and must have a cumulative average of 2.5 (on a scale of 4.0) or better. They must also meet the admission requirements as set

by the Faculty of the School of Business Administration. Students planning to attend a two-year college before transferring to the School of Business Administration are encouraged to follow an arts and sciences or pre-business program rather than a technical terminal program. (See also Chapter III.)

RETURNING STUDENTS

A qualified student who returns to the School of Business Administration after an absence of one calendar year or longer may be readmitted to the School of Business Administration according to the University of Dayton requirements which are applied to transfer students from other universities and colleges. (See Chapter III.) These students will be required to satisfy the program requirements which are current at the time of their readmission to the School of Business Administration. Part-time students (those who carry fewer than 12 semester hours) who are readmitted after an absence of two or more years will be required to satisfy the program requirements which are current at the time of readmission to the School of Business Administration.

REQUIREMENTS FOR THE BACCALAUREATE DEGREE

The School of Business Administration programs lead to the degree of Bachelor of Science in Business Administration upon satisfactory completion of the following requirements:

1. The candidate must complete successfully the freshman-sophomore business administration program, which is designed to give a wide and liberal education for a broader comprehension of the field of business administration and economics.
2. The candidate must earn a cumulative grade point average of at least 2.0 in the total semester hours required for the degree and in the major.
3. Each candidate must complete at least 60 upper-level semester hours, with a minimum of 36 semester hours in 300-400-level courses in the School of Business Administration, of which 18 semester hours or more must be in one of the upper-division areas of concentration.
4. The candidate must complete a *minimum* of 121 semester hours.
5. The candidate's final 30 semester hours must be earned in residence at the University of Dayton.
6. The candidate has the responsibility of meeting degree requirements in business administration. Therefore, the student should be thoroughly familiar with the course requirements and should keep a record of courses completed and semester hours applicable to degree requirements.

GRADING OPTION

All students in the School of Business Administration must register under Grade Option 1 for courses in any department of the School of Business Administration. Other courses that must be taken under Option 1 are MTH 110, 111, 192, 193; PHL 313; and the 3-semester-hour communication requirement.

FRESHMAN-SOPHOMORE BUSINESS ADMINISTRATION PROGRAM

NOTE: The program below is to be followed by students who will major in accounting, economics, finance, management, or marketing. Students planning to major in

management information systems should follow the program outlined in the section on the Department of Decision Sciences (DSC) in this chapter.

Dept.	*No.*	*Course*	*Semester Hours* 1st Term	2nd Term
The following are required of freshmen:				
ENG	101-102	College Composition I and II[1]	3	3
MTH	110-111	Quantitative Analysis[2]	3	3
The following are ordinarily taken during the freshman year[3]:				
DSC	103	*Introduction to Computers and Information Processing*		3
HST	101 or 102	*History of Western Civilization*	3	
PHL	103	*Introduction to Philosophy*	3	
SPE	101	*Fundamentals of Effective Speaking*[4]	3	
—	—	*Social science elective*[5]		3
—	—	General education requirement[6]		4
			15	16
The following are ordinarily taken during the sophomore year[3]:				
ACC	207-208	Principles of Accounting	3	3
DSC	210-211	Statistics for Business I and II	3	3
ECO	203-204	*Principles of Microeconomics and Macroeconomics*	3	3
MGT	203	*Business Law I*		3
—	—	General education requirements[6]	6	3
			15	15

[1]Students placed in ENG 114 or 198 take a nonbusiness elective the second term.

[2]MTH 107 is recommended for students with insufficient knowledge of secondary mathematics. This would be an additional course for those taking it, since MTH 107 does not count towards graduation.

[3]Courses "ordinarily taken during the freshman year" may be transposed with courses "ordinarily taken during the sophomore year." Thus the student may take SPE 101 or DSC 103 as a sophomore, MGT 203 or ECO 203-204 as a freshman, etc. Consult with program advisor. Courses listed in italics may be taken in either the first or the second term.

[4]Students testing out of SPE 101 will take another SPE course or any other course from the Department of Communication.

[5]Choose a course from one of the following departments: Political Science, Psychology, or Sociology.

[6]See General Education Requirements, Chapter V. Some general education courses are specified in the program (e.g., PHL 103); others are to be chosen from the listing of approved courses. From the options available for fulfilling the H2, S2, and AS general education requirements, sophomores must take at least one course at the 300 or 400 level in order to meet the graduation requirement of 60 upper-level sem. hrs. Consult with program advisor.

UPPER-LEVEL PROGRAMS

Specialization in the School of Business Administration occurs in the junior and senior years. It is possible to major in any one of the following areas: accounting, management information systems, economics, finance, management, or marketing.

Minors and double majors in business administration can be arranged.

Each curriculum, with the exception of that in management information systems, is organized to include 15 semester hours of general electives at the 300-400 level. At least 3 semester hours of these must be outside the School of Business Administration. (For management information systems majors, the required concentration in computer science pre-empts 12 of the 15 semester hours.) In choosing any elective, students should bear in mind that a minimum of 60 semester hours of all academic work must be at the 300-400 level.

For programs leading to the Bachelor of Science in Business Administration, see ACC (Accounting), DSC (Decision Sciences), ECO (Economics), FIN (Finance), MGT (Management), and MKT (Marketing).

INTERNSHIP

Internship is work experience offered for academic credit under faculty sponsorship in each of the departments in the School of Business Administration. The intent is to provide practical experience in implementing the theory and skills learned in the classroom, in work associated with the student's academic concentration. It is an option open to all undergraduate students pursuing four-year programs once they have fulfilled the following preconditions:

1. Students must have completed a minimum of 45 semester hours.
2. A minimum of 2.0 cumulative grade average is required and must be maintained.
3. Approval from the department chairperson of the student's major is a prerequisite for participation in the program.

Positions offered to students may be either compensatory or noncompensatory. The intent of the internship is to be beneficial to both the students and the participating organizations. Students are encouraged to find positions themselves, and these are acceptable if the employers agree to the conditions for participating organizations.

Credits earned in internship may be applied as general electives or associated with the student's major, depending upon the requirements of the individual departments. The maximum number of semester hours that may be earned over the full four-year degree program is twelve. Individual department requirements differ and should be checked under the 497 course numbers in the pages which follow.

The internship program is offered in all terms with special policy and conditions governing the summer session. During the first and second terms internships are offered in the Dayton area, while during the summer session arrangements can be made for out-of-town participation. Interested students should see the internship coordinator for fuller information as soon as they are eligible for participation.

COOPERATIVE EDUCATION

The School of Business Administration participates in the University of Dayton Cooperative Education Program, which is an optional program of full-time, on-campus study alternating with terms of full-time, off-campus work training. For a fuller explanation of the program please refer to Chapter X.

ACCOUNTING (ACC)

Accounting is the study of the preparation and communication of economic information about business and nonbusiness entities useful to decision makers. Students completing the accounting program are prepared for positions in industry, public accounting, nonprofit organizations, and government, as well as for the CPA and other applicable professional examinations.

An accounting major must earn credit in at least seven upper-level accounting courses. Five specific courses are required: ACC 303, 305, 306, 309, and 401. At least two additional elective accounting courses are required. Students should consult with their academic advisors about selecting accounting and other elective courses appropriate to particular career goals. For example, a student desiring a career in public accounting would benefit from taking ACC 408, Advanced Financial Accounting, as well as extra coursework in business law.

PROGRAM—B1: BACHELOR OF SCIENCE WITH A MAJOR IN ACCOUNTING (ACC)

Dept.	*No.*	*Course*	*Semester Hours*	
		Junior Year	1st Term	2nd Term
ACC	303	Managerial Accounting	3	
ACC	305-306	Intermediate Financial Accounting	3	3
ACC	309	Federal Income Taxation		3
ECO	347	*Intermediate Macroeconomic Analysis*[1]	3	
FIN	301	*Business Finance*		3
MGT	305	*Management and Organization*	3	
MKT	305	*Principles of Marketing*	3	
PHL	313	Business Ethics		3
—	—	Communication elective[2]	3	
—	—	General education requirement[3]		3
			18	15
		Senior Year		
ACC	401	Auditing Principles	3	
ACC	—	Accounting electives[4]	3	3
DSC	316	Production/Operations Management	3	
MGT	423	Business Policies and Management		3
—	—	General education requirement[3]		3
—	—	General electives[5]	6	6
			15	15

[1]Courses listed in italics may be taken in either the first or the second term.

[2]Choose one course from the following: ENG 370, 372; COM 308, 310; SPE 312. No substitutions.

[3]See General Education Requirements, Chapter V. Some general education courses are specified in the program (e.g., PHL 313); others are to be chosen from the listing of approved courses. Consult advisor.

[4]Select in consultation with program advisor.

[5]At least 3 sem. hrs. of the general electives must be taken outside the School of Business Administration. All general electives must be at the 300-400 level. In choosing courses, students should bear in mind that a minimum of 60 sem. hrs. of all academic work must be at the 300-400 level and all general education requirements must be satisfied.

For a minor in accounting, 18 semester hours are required:
ACC 207-208: Principles of Accounting (ACC 301-302 will substitute.)
ACC 305-306: Intermediate Financial Accounting
plus two other accounting courses chosen in consultation with the chairperson

FACULTY

Ronnie J. Burrows, *Chairperson*
Professor: Hoben
Associate Professors: Brady, Burrows, Clark, Eley, Fioriti, Fulton, Geary, Giacoletti, Rosenzweig, Vorherr
Assistant Professors: Gaumnitz, Root

COURSES OF INSTRUCTION

ACC 207. PRINCIPLES OF ACCOUNTING I: Introduction to financial accounting concepts, procedures, and terminology. The accounting framework for recording transactions and reporting to parties external to the organization. Prerequisite: Sophomore standing. ACC 207 is a prerequisite for all other accounting courses except ACC 301. *3 sem. hrs.*

ACC 208. PRINCIPLES OF ACCOUNTING II: Introduction to managerial accounting concepts, procedures, and terminology. Reporting to managers for planning and controlling organization activities as well as cost accumulation. Prerequisite: ACC 207. *3 sem. hrs.*

ACC 301. FINANCIAL ACCOUNTING: Introduction to financial accounting concepts, terminology, purposes, and applications for the nonbusiness student, including financial statements and financial control procedures. Not open to students in the School of Business Administration or to those with credit in ACC 207. *3 sem. hrs.*

ACC 302. ACCOUNTING FOR MANAGEMENT: How accounting information is used to manage a business or nonprofit institution. Budgeting, cost accounting, differential accounting for analysis and decision making, and institutional accounting. Not open to accounting majors. Prerequisite: ACC 207 or 301. *3 sem. hrs.*

ACC 303. MANAGERIAL ACCOUNTING: The production, dissemination, and interpretation of financial information for use within an organization. Information for planning, decision making, and control. Study of typical cost accounting systems in various organizations. Prerequisites: ACC 208, junior standing. *3 sem. hrs.*

ACC 305-306. INTERMEDIATE FINANCIAL ACCOUNTING: Comprehensive treatment of financial accounting concepts, principles, and procedures used in the preparation and analysis of financial statements. These courses are the basis for all advanced courses. Prerequisites: ACC 208, junior standing. ACC 305 is a prerequisite for ACC 306. *3 sem. hrs. each*

ACC 309. FEDERAL INCOME TAXATION: The conceptual framework of taxation, with discussion, evaluation, and primary emphasis on the taxation of individuals. Prerequisite: ACC 208. *3 sem. hrs.*

ACC 401. AUDITING PRINCIPLES: Introduction to the concepts, standards, techniques, and procedures used to evaluate the fairness of the financial information generated by a business entity; examination and analysis of internal control and the auditor's reports. Required for those seeking careers in public accounting. Prerequisites: ACC 303, 306. *3 sem. hrs.*

ACC 402. ACCOUNTING FOR NONPROFIT ORGANIZATIONS: Study of the principles, techniques, and procedures related to financial reporting of governmental units and other not-for-profit entities. Prerequisite: ACC 306. *3 sem. hrs.*

ACC 404. ADVANCED MANAGERIAL ACCOUNTING: Study of the more involved methods and concepts of managerial cost accounting. Includes advanced topics in cost determination and analysis, quantitative methods, behavioral aspects of management decision-making and control systems. Prerequisite: ACC 303. *3 sem. hrs.*

ACC 405. INTERNAL AUDITING PRINCIPLES: Introduction to procedures and techniques enabling a firm to exercise control over its assets; analysis of various systems to ascertain effectiveness. Required for those seeking non-public-accounting careers. Prerequisites: ACC 303, 306. *3 sem. hrs.*

ACC 408. ADVANCED FINANCIAL ACCOUNTING: Study of the principles and procedures in accounting for specialized uses in partnerships, branches, business combinations, consolidations, segment reporting, government, and multi-national companies. Prerequisite: ACC 306. *3 sem. hrs.*

ACC 409. ADVANCED TAXATION: Study of taxation of corporations, partnerships, and estates and trusts. Emphasis on the impact of taxation on business entities. Prerequisite: ACC 309. *3 sem. hrs.*

ACC 412. INTERNATIONAL ACCOUNTING: Introduction to the issues and problems of international business as they relate to accounting; how various countries perceive and deal with specific accounting problems. *3 sem. hrs.*

ACC 413. ADVANCED ACCOUNTING PROBLEMS: Comprehensive study and analysis of accounting principles and practices, using specific problems for development of approaches to problem solving. Useful in preparing for CPA and other professional examinations. Prerequisite: Consent of chairperson. *3 sem. hrs.*

ACC 414. SEMINAR IN ACCOUNTING: Study of current accounting issues and recent authoritative pronouncements; panel discussions, case studies, presentations by professional accountants, extensive access to accounting literature. Prerequisite: 12 sem. hrs. of upper-level ACC courses or permission of instructor. *3 sem. hrs.*

ACC 441. ACCOUNTING INFORMATION SYSTEMS: Study of data processing systems and their impact on managerial decision making. Emphasis on the flow and internal control of data and on computer application. Prerequisite: ACC 306 or permission. *3 sem. hrs.*

ACC 491-492. HONORS THESIS: Selection, design, investigation, and completion of an independent original research thesis under the guidance of a departmental faculty member. Restricted to students in the University Honors Program with permission of program director and chairperson. *3 sem. hrs. each*

ACC 497. LABORATORY WORK EXPERIENCE: Off-campus work experience, in a business firm or other institution; assignments arranged by the School of Business Administration, cooperating with the sponsoring institution. Credit does not apply to requirements for ACC major. Prerequisite: Approval of chairperson. *3 sem. hrs.*

ACC 498. COOPERATIVE WORK EXPERIENCE: Optional program of full-time, on-campus study alternating with terms of full-time, off-campus work training. Provides on-the-job experience, academic motivation, and financial assistance to the student. Credit does not apply to requirements for ACC major. Prerequisite: Approval of department chairperson. *3 sem. hrs.*

ACC 499. SPECIAL PROBLEMS (HONORS): Directed readings, independent study, and research projects in selected fields of accounting. Periodic conferences with instructor. Number of sem. hrs. depends on amount of work chosen. Prerequisites: Senior status in accounting, permission of chairperson and instructor. *1-6 sem. hrs.*

DECISION SCIENCES (DSC)

The Department of Decision Sciences offers instruction in several quantitative and systems areas and a major in management information systems.

The study of management information systems (MIS) deals with all informational and decision-making activity associated with operating an organization. This discipline integrates systems analysis, statistics, management, management science, computer science, and other business areas. This program will provide the theory, analytical framework, and methodology to analyze, design, implement, and manage an organization's complex information or decision systems. The major program in management information systems will prepare students for careers as systems managers, i.e., business or organizational analysts or general managers (in almost any business function) with special management science and information systems expertise.

The major in management information systems consists of DSC 375, Management and Decision Systems; DSC 375L, Business Microcomputer Laboratory; DSC 414, Operations Research—Stochastic Models; DSC 465, MIS Analysis and Design; DSC 475, MIS Design Project; MGT 443, Organization Theory; and one other three-semester-hour upper-level course approved by the department. In addition, this major requires a three-course sequence in computer science: CPS 310, 312, and 499. The prerequisite for these computer science courses is proficiency in the Pascal and COBOL languages, which may be obtained with CPS 150 and 304. Algorithms and Programming II, CPS 151, is also a prerequisite.

PROGRAM—B5: BACHELOR OF SCIENCE WITH A MAJOR IN MANAGEMENT INFORMATION SYSTEMS (MIS)

Dept.	*No.*	*Course*	*Semester Hours* 1st Term	2nd Term
The following are required of freshmen:				
ENG	101-102	College Composition I and II[1]	3	3
MTH	110-111	Quantitative Analysis I and II[2]	3	3
The following are ordinarily taken during the freshman year[3]:				
DSC	103	*Introduction to Computers and Information Processing*		3
HST	101 or 102	*History of Western Civilization*		3
PHL	101	*Introduction to Philosophy*	3	
SPE	101	*Fundamentals of Effective Speaking*[4]	3	
—	—	*General education requirements*[5]	4	3
			16	15
The following are ordinarily taken during the sophomore year[3]:				
ACC	207-208	Principles of Accounting	3	3
CPS	150-151	Algorithms and Programming I and II	3	3
CPS	304	*COBOL Programming*		3
DSC	210-211	Statistical Analysis I and II	3	3
ECO	203-204	*Principles of Microeconomics and Macroeconomics*	3	3
MGT	203	*Business Law I*	3	
			15	15

		Junior Year		
CPS	310	Systems Analysis	3	
CPS	312	Systems Design		3
DSC	316	Production/Operations Management	3	
DSC	375	Management and Decision Systems	3	
DSC	375L	Business Microcomputer Laboratory	1	
DSC	414	Operations Research—Stochastic Models		3
FIN	301	Business Finance		3
MGT	305	Management and Organization	3	
MKT	305	Principles of Marketing		3
—	—	Communication elective[6]		3
—	—	Social science elective[7]	3	
—	—	General education requirement[5]		3
			16	18
		Senior Year		
CPS	499	Information Structures	3	
DSC	465	MIS Analysis and Design	3	
DSC	475	MIS Design Project		3
ECO	347	Intermediate Macroeconomic Analysis	3	
MGT	423	Business Policies and Management		3
MGT	443	Organization Theory	3	
PHL	313	Business Ethics		3
—	—	Management information systems elective[8]		3
—	—	General education requirements[5]	6	3
			18	15

[1]Students placed in ENG 114 or 198 take a nonbusiness elective the second term.

[2]MTH 107 is recommended for students with insufficient knowledge of secondary mathematics. This would be an additional course for those taking it, since MTH 107 does not count towards graduation.

[3]Courses "ordinarily taken during the freshman year" may be transposed with courses "ordinarily taken during the sophomore year." Thus the student may take SPE 101 or DSC 103 as a sophomore, MGT 203 or ECO 203-204 as a freshman, etc. Consult with program advisor. Courses listed in *italics* may be taken in either the first or the second term.

[4]Students testing out of SPE 101 will take another SPE course or any other course from the Department of Communication.

[5]See General Education Requirements, Chapter V. Some general education courses are specified in the program (e.g., PHL 103, 313); others are to be chosen from the listing of approved courses. Consult advisor. In choosing these and other electives, students should bear in mind that a minimum of 60 sem. hrs. of all academic work must be at the 300-400 level.

[6]Select a course from the following: ENG 370, 372; COM 308, 310; SPE 312. No substitutions.

[7]Choose a course from one of the following departments: Political Science. Psychology, or Sociology.

[8]Select any DSC, MGT, or CPS 300-400-level course in consultation with advisor.

FACULTY

E. James Dunne, *Chairperson*
Professors: Dunne, Vlahos
Associate Professors: Amsden, Bohlen, Pearson, Rippy, Wells, Young
Assistant Professors: Casey, Ghosh, Holland
Lecturer: Wilson

COURSES OF INSTRUCTION

DSC 103. INTRODUCTION TO COMPUTERS AND INFORMATION PROCESSING: Study of computers and information processing with emphasis on the applications of computers to solving business problems for improving managerial decisions. Programming theory and practice using the BASIC language for simple business-oriented problems. *3 sem. hrs.*

DSC 210. STATISTICS FOR BUSINESS I: Basic concepts of statistics including descriptive statistics, probability, probability distribution, and estimation. Prerequisite: MTH 111. *3 sem. hrs.*

DSC 211. STATISTICS FOR BUSINESS II: Tests of hypotheses followed by analysis of variance, correlation, simple and multiple regression, nonparametric statistics, time series, and survey sampling. Prerequisite: DSC 210. *3 sem. hrs.*

DSC 312. QUANTITATIVE BUSINESS ANALYSIS: Development of the basic tools of quantitative analysis and introduction to the principal decision models used for management analysis in the context of managerial process. Prerequisite: DSC 211 or equivalent. *3 sem. hrs.*

DSC 313. ADVANCED BUSINESS STATISTICS: Selected topics from advanced statistics with emphasis on business application and nonparametric methods. Prerequisite: DSC 211 or equivalent. *3 sem. hrs.*

DSC 316. PRODUCTION/OPERATIONS MANAGEMENT: Study of the management of processes that produce goods or services. Emphasis on applied statistical and management science techniques such as linear programming, queuing, and statistical quality control. Prerequisite: DSC 211. *3 sem. hrs.*

DSC 365. MANAGEMENT SYSTEMS: A survey course in management information systems for non-MIS majors. General systems theory and the systems approach to management; the concepts of management information systems; the role of computers in automated management information systems. Prerequisite: DSC 211. *3 sem. hrs.*

DSC 375. MANAGEMENT AND DECISION SYSTEMS: The first in a three-course sequence (DSC 375, 465, 475) for MIS majors. A systems view of organizations; the managerial decision-making process; decision support and information systems. Case studies and a student project. Prerequisite: DSC 211. Corequisite: DSC 375L. *3 sem. hrs.*

DSC 375L. BUSINESS MICROCOMPUTER LABORATORY. Course taken in conjunction with DSC 375 to provide a working knowledge of microcomputer hardware, software, and data communications. Experience with microcomputer operating systems, word processing, spreadsheets, graphics, database management systems, and area networks. Prerequisite: DSC 211. Corequisite: DSC 375. *1 sem. hr.*

DSC 410. DECISION THEORY: Logical analysis of decisions that arise under uncertainty in the practice of business administration. Stress on decision making according to logical principles; understanding of the objective and subjective inputs and outputs. Prerequisite: DSC 211 or equivalent. *3 sem. hrs.*

DSC 413. OPERATIONS RESEARCH—DETERMINISTIC MODELS: Study of quantitative methods and model building as aids in management decision making. Emphasis on deterministic methods such as linear programming, integer programming, goal programming, and network models. Prerequisite: DSC 211 or equivalent. *3 sem. hrs.*

DSC 414. OPERATIONS RESEARCH—STOCHASTIC MODELS: Study of quantitative methods and model building as aids in management decision making. Emphasis on probabilistic methods such as decision analysis, waiting line theory, inventory models, and simulation modeling. Prerequisite: DSC 211 or equivalent. *3 sem. hrs.*

DSC 465. MIS ANALYSIS AND DESIGN: Study of the theory, operation, and control of management information systems and decision support systems. Extended case study and major student project of an existing organization's information system. Fall term only. Prerequisites: DSC 375, 375L; CPS 310. *3 sem. hrs.*

DSC 475. MIS DESIGN PROJECT: A capstone course organized around a major student information system design project (continuation of DSC 465 project), integrating computer science, systems analysis, quantitative modeling, and organizational theory. Spring term only. Prerequisite: DSC 465. *3 sem. hrs.*

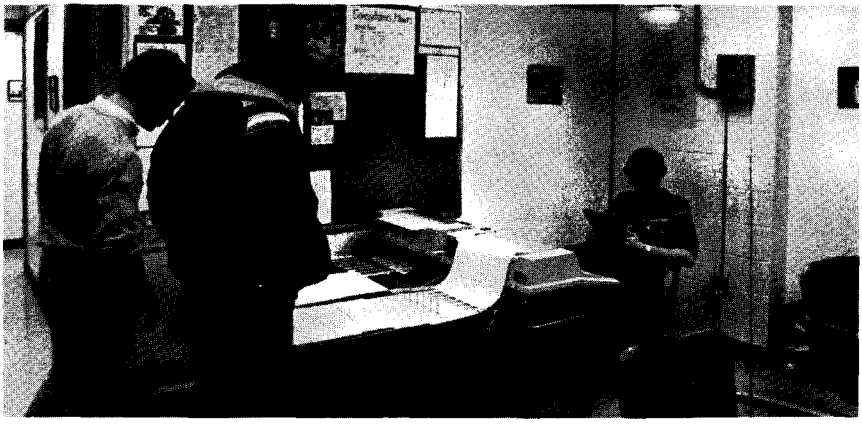
DSC 491-492. HONORS THESIS: Selection, design, investigation, and completion of an independent original research thesis under the guidance of a departmental faculty member. Restricted to students in the University Honors Program with permission of the director of the program and the departmental chairperson. *3 sem. hrs. each*

DSC 494. SEMINAR IN DECISION SCIENCES: Study of selected topics or issues in information systems or decision sciences. Topics vary from time to time. May be taken more than once if topics change. Title will reflect topics covered in a particular offering. *1-3 sem. hrs.*

DSC 497. LABORATORY WORK EXPERIENCE: An off-campus laboratory work position carried out under the auspices and supervisory authority of a participating industrial, commercial, educational, health care, or governmental organization. Prerequisite: Permission of chairperson. *1-6 sem. hrs.*

DSC 498. COOPERATIVE EDUCATION PROGRAM: An optional program of full-time, on-campus study alternating with terms of full-time, off-campus work training. Provides on-the-job experience, academic motivation, and financial assistance to the student. *3 sem. hrs.*

DSC 499. DECISION SCIENCES SEMINAR (HONORS): A course in research on a subject within the student's major. Normally open only to those who have attained a cumulative grade point average of 3.0 or above in their sophomore and junior years. Prerequisite: Permission of chairperson. *1-6 sem. hrs.*



ECONOMICS (ECO)

The major program in economics is designed for students seeking careers as economists in education, government, or business. The major is excellent preparation for graduate work in either economics or business administration and for law school. The student is equipped with the tools for the systematic analysis of the economics of the firm, the industry, the nation, and the world.

The major in economics consists of ECO 203-204; ECO 346, Intermediate Microeconomic Analysis; ECO 347, Intermediate Macroeconomic Analysis; and 15 semester hours of economics electives. ECO 442, Money and Banking, is strongly recommended. Students in the College of Arts and Sciences desiring to major in economics will follow the program for the Bachelor of Arts in Economics. (See ECO, Chapter VI.)

The student may choose from several optional concentrations. These include banking and investment, government economics, international economics, managerial economics, and pre-law.

PROGRAM—B3-A: BACHELOR OF SCIENCE WITH A MAJOR IN ECONOMICS (ECO)

Dept.	*No.*	*Course*	*Semester Hours*	
		Junior Year[1]	1st Term	2nd Term
ECO	346	Intermediate Microeconomic Analysis	3	
ECO	347	Intermediate Macroeconomic Analysis		3
ECO	—	Economics elective		3
FIN	301	Business Finance	3	
MGT	305	Management and Organization	3	
MKT	305	Principles of Marketing		3
PHL	313	Business Ethics	3	
—	—	Communication elective[2]		3
—	—	General education requirement[3]	3	
—	—	General elective[4]		3
			15	15
		Senior Year		
DSC	316	Production/Operations Management	3	
ECO	—	Economics electives	6	6
MGT	423	Business Policies and Management		3
—	—	General education requirement[3]	3	
—	—	General electives[4]	3	6
			15	15

[1]Most courses may be taken either term. Consult with program advisor.

[2]Choose one course from the following: ENG 370, 372; COM 308, 310; SPE 312. No substitutions.

[3]See General Education Requirements, Chapter V. Some general education courses are specified in the program (e.g., PHL 313); others are to be chosen from the listing of approved courses. Consult advisor.

[4]At least 3 sem. hrs. of the general electives must be taken outside the School of Business Administration. All general electives must be at the 300-400 level. In choosing courses, students should bear in mind that a minimum of 60 sem. hrs. of all academic work must be at the 300-400 level, and all general education course requirements must be satisfied.

For a minor in economics, 18 semester hours are required:

ECO 203-204: Principles of Micro- and Macroeconomics
ECO 346-347: Intermediate Micro- and Macroeconomic Analysis
plus any two elective courses from economics

FACULTY

John E. Weiler, *Chairperson, Department of Economics and Finance*
Professors: Rapp, Weiler, Winger
Associate Professors: Chen, Frasca, Gustafson, Hadley, Stick, Wright
Assistant Professors: Blodget, Colon, Miyagiwa

COURSES OF INSTRUCTION

*ECO 203. PRINCIPLES OF MICROECONOMICS: Examination of pricing under conditions of perfect and imperfect competition; study of distribution of income, principles of international trade, problems of economic development, and alternative economic systems. *3 sem. hrs.*

*ECO 204. PRINCIPLES OF MACROECONOMICS: Basic economic principles; analysis of American economy—business organization, industrial relations, the economic role of government, money and banking in the productive process, determination of aggregate level of national income and employment. *3 sem. hrs.*

ECO 346. INTERMEDIATE MICROECONOMIC ANALYSIS: Analysis of the theory of consumer behavior, production theory, equilibrium of the firm, price determination in various market structures, distribution of income, allocation of resources, welfare economics. Prerequisite: ECO 203. *3 sem. hrs.*

ECO 347. INTERMEDIATE MACROECONOMIC ANALYSIS: National income accounting and the determination of the level of income and employment; classical, Keynesian, and post-Keynesian models; private, government, and foreign sectors; theories of inflation and economic growth. Prerequisite: ECO 204; ECO 203 recommended. *3 sem. hrs.*

ECO 430. HISTORY OF ECONOMIC THOUGHT: Development of economic thinking from Biblical times to the present; overview of mercantilism, physiocratism, and classical, utilitarian, socialist, neoclassical, and Keynesian streams of thought; surveys of major industrialists who put these theories into action. Prerequisites: ECO 203, 204. *3 sem. hrs.*

ECO 441. ECONOMETRICS: Training in the art of making economic measurements from empirical data, using regression analysis as the principal tool; use of a computer program for determining the parameters and statistical measures of the regression equation; interpretation of the results by statistical inference. Prerequisites: Differential calculus and basic statistics or permission of the instructor. *3 sem. hrs.*

ECO 442. MONEY AND BANKING: Principles of money and monetary systems; commercial banking and the role of the Federal Reserve System; monetary theory and policy; the mechanism of international payments. Prerequisites: ECO 203, 204; ECO 347 recommended. *3 sem. hrs.*

ECO 445. PUBLIC FINANCE: The economic aspects of government finance at the local, state, and especially national level; the behavioral effects of various taxes, efficiency in spending, the changing role of the U.S. government, fiscal policy, and intergovernmental revenue and expenditure programs; emphasis on relating analytical tools to current developments. Prerequisites: ECO 203, 204. *3 sem. hrs.*

ECO 450. COMPARATIVE ECONOMIC SYSTEMS: Analysis of the principal tools of economic systems of the world, primarily capitalism, socialism, and communism; survey of economic conditions of over 25 nations, especially natural resources, agriculture, industries, foreign trade, and currency strength. Prerequisites: ECO 203, 204. *3 sem. hrs.*

ECO 460. ECONOMIC DEVELOPMENT AND GROWTH: Study of various dynamic economic theories of growth and structural change; the role of particular factors of production and related noneconomic variables in the development process, primarily, though not exclusively, of Third World nations. Prerequisites: ECO 203, 204. *3 sem. hrs.*

ECO 461. INTERNATIONAL ECONOMICS: Study of international trade and international monetary relations, theoretical and practical aspects of flows of commodities and production resources, protection, balance of payments, adjustment mechanism and policy, and international economic organizations. Prerequisites: ECO 203, 204. *3 sem. hrs.*

ECO 471. LABOR ECONOMICS: Theory of labor supply and demand, human capital theory, and the process by which wages are determined in various factor markets; applications to topics of unemployment, unions, migration, discrimination, and skill differentials. Prerequisites: ECO 203, 204. *3 sem. hrs.*

ECO 485. URBAN AND REGIONAL ECONOMICS: Treatment of certain theoretical concepts such as location theory and theories of land use and land rent; an economic interpretation for the existence of cities; applying economic analysis to the problems of traffic congestion, pollution, race, poverty, and urban sprawl. Student research on a topic of interest is requisite. Prerequisite: ECO 203; ECO 346 recommended. *3 sem. hrs.*

ECO 490. ANTITRUST ECONOMICS: Analysis of industrial organization, including the economics of pertinent antitrust laws. Prerequisite: ECO 203; ECO 346 recommended. *3 sem. hrs.*

ECO 491-492. HONORS THESIS: Selection, design, investigation, and completion of an independent original research thesis under the guidance of a departmental faculty member. Restricted to students in the University Honors Program with permission of the director of the program and the departmental chairperson. *3 sem. hrs. each*

ECO 493. BUSINESS ECONOMICS: The application of microeconomics to business decision making. A case-oriented course exploring methods for utilizing economic theory in practical settings involving demand, production, cost, and pricing. Prerequisite: ECO 346. *3 sem. hrs.*

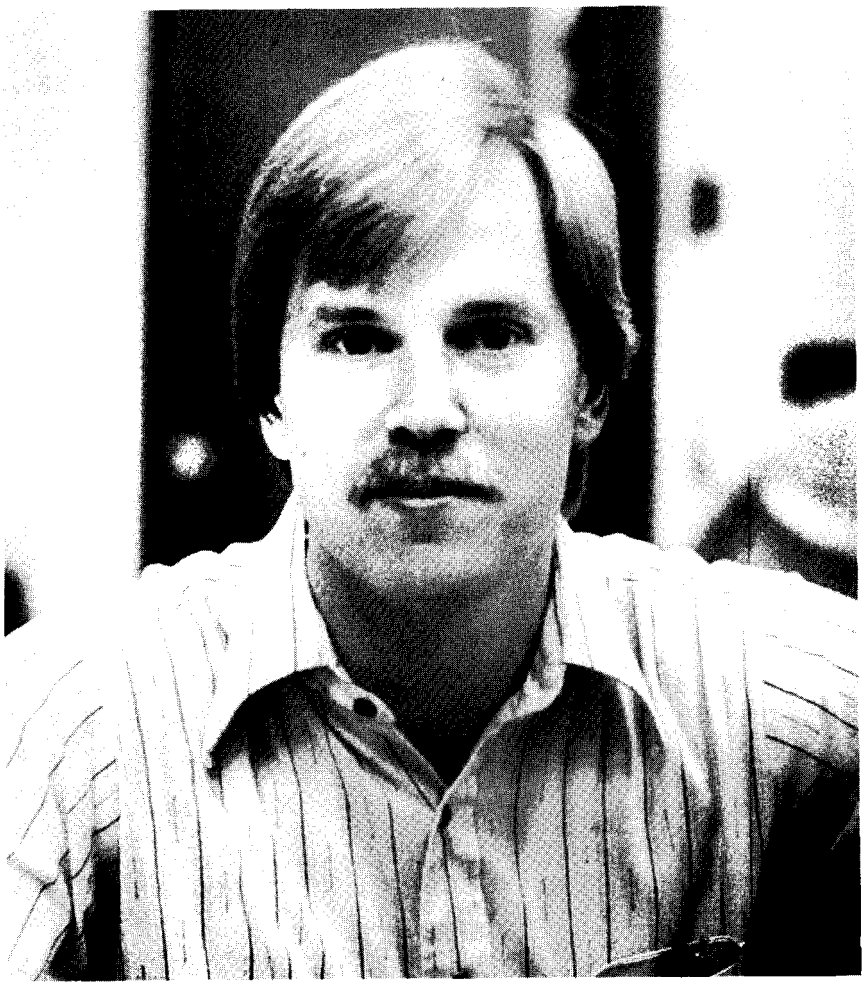
ECO 494. SEMINAR: Subject varies from time to time. May be taken more than once if topic changes. Prerequisites to be announced. *3 sem. hrs.*

ECO 496. CO-OP WORK TERM: For students earning credit through Cooperative Education program. See Co-op Office for details. Credit does not count towards economics major, but may be used as general elective. *3 sem. hrs.*

ECO 497. LABORATORY WORK EXPERIENCE: Under School of Business sponsorship and in association with participating industrial, commercial, educational, health-care, or governmental organizations, practical experience in work associated with the student's major or minor concentration of studies. (See internship coordinator for further information.) Does not count toward economics major. Permission of chairperson. *3 sem. hrs.*

ECO 498. STUDIES IN ECONOMICS (HONORS): Directed readings and research in selected fields of economics. The number of sem. hrs. will depend on the amount of work chosen. The course will involve periodic discussions with faculty and other students in the course. May be taken more than once for additional credit. Prerequisite: 3.0 average in economics with a minimum of 9 sem. hrs. in economics, and permission. *1-6 sem. hrs.*

*General education course. See Chapter V.



FINANCE (FIN)

The major program in finance is designed for students seeking careers in finance, banking, security analysis, or financial institutions. A major in finance is also excellent preparation for graduate study in finance or business administration or for law school.

The student majoring in finance will complete FIN 301, Business Finance; FIN 360, Investments; FIN 370, Financial Institutions; FIN 442, Money and Banking; and a minimum of 9 semester hours of finance electives, 6 of which must be at the 400 level.

PROGRAM—B3-B: BACHELOR OF SCIENCE WITH A MAJOR IN FINANCE (FIN)

Dept.	*No.*	*Course*	*Semester Hours*	
		Junior Year[1]	1st Term	2nd Term
ECO	347	Intermediate Macroeconomic Analysis	3	
FIN	301	Business Finance	3	
FIN	360	Investments		3
FIN	370	Financial Institutions		3
MGT	305	Management and Organization	3	
MKT	305	Principles of Marketing		3
PHL	313	Business Ethics		3
—	—	Communication elective[2]	3	
—	—	General education requirement[3]		3
—	—	General elective[4]	3	
			15	15
		Senior Year		
DSC	316	Production/Operations Management	3	
FIN	442	Money and Banking	3	
FIN	—	Finance electives[5]	3	6
MGT	423	Business Policies and Management		3
—	—	General education requirement[3]	3	
—	—	General electives[4]	3	6
			15	15

[1]Most courses may be taken either term. Consult with program advisor.

[2]Choose one course from the following: ENG 370, 372; COM 308, 310; SPE 312. No substitutions.

[3]See General Education Requirements, Chapter V. Some general education courses are specified in the program (e.g., PHL 313); others are to be chosen from the listing of approved courses. Consult advisor.

[4]At least 3 sem. hrs. of the general electives must be taken outside the School of Business Administration. All general electives must be at the 300-400 level. In choosing courses, students should bear in mind that a minimum of 60 sem. hrs. of all academic work must be at the 300-400 level, and all general education course requirements must be satisfied.

[5]The 9 sem. hrs. of finance electives must include at least 6 sem. hrs. at the 400 level.

For a minor in finance, 15 semester hours are required:

FIN 301: Business Finance
FIN 360: Investments
FIN 370: Financial Institutions
FIN 442: Money and Banking
Plus any one other finance course

FACULTY

John E. Weiler, *Chairperson, Department of Economics and Finance*
Professors: Rapp, Weiler, Winger
Associate Professors: Chen, Frasca, Gustafson, Hadley, Stick, Wright
Assistant Professors: Blodget, Colon, Miyagiwa
Part-time Instructors: Mikula, Rathweg

COURSES OF INSTRUCTION

FIN 200. PERSONAL FINANCE: Principles and techniques for handling personal financial decisions: personal budgeting, obtaining credit, life and casualty insurance, buying a home, buying an automobile, and savings and investments. For both business and nonbusiness majors. No credit toward finance major. No prerequisite. *3 sem. hrs.*

FIN 301. BUSINESS FINANCE: Principles and techniques used by business firms in managing and financing their current and fixed assets; sources of funds within the capital markets; determinants of the financial structure; analytical techniques. Prerequisites: ECO 203, ACC 207 or 301. *3 sem. hrs.*

FIN 330. INSURANCE AND RISK MANAGEMENT: Study of the basic concepts of business and personal risks from the standpoint of creation, identification, reduction, elimination, and evaluation of risks; the use of insurance in meeting problems of risk. *3 sem. hrs.*

FIN 336. PRINCIPLES OF REAL ESTATE: Survey of real estate industry with emphasis on its structure, regulation, growth, needs, financing, and future. Analysis of the methods of determining land use and evaluation of the theories of city development. *3 sem. hrs.*

FIN 360. INVESTMENTS: The principles and techniques used by the investor in selecting securities, emphasis on the stock and bond markets; security valuation methods leading to the selection of individual issues; portfolio theory. Prerequisites: FIN 301. *3 sem. hrs.*

FIN 370. FINANCIAL INSTITUTIONS: Integrated and comprehensive analysis of financial institutions with emphasis on financial intermediaries and the influence of government on the financial system. Prerequisite: FIN 301. *3 sem. hrs.*

FIN 440. PORTFOLIO MANAGEMENT AND SECURITY ANALYSIS: Advanced valuation theory; fundamentals of security analysis, portfolio construction, and management. Prerequisites: FIN 301, 360. *3 sem. hrs.*

FIN 442. MONEY AND BANKING: Principles of money and monetary systems; commercial banking and the role of the Federal Reserve System; monetary theory and policy; the mechanism of international payments. Prerequisites: ECO 203, 204; ECO 347 recommended. *3 sem. hrs.*

FIN 450. INTERNATIONAL BUSINESS FINANCE: Introduction to problems facing financial management of international companies, including environmental factors, organizing, financing of international trade, investment, production, and international accounting and control. Prerequisite: FIN 301. *3 sem. hrs.*

FIN 490. ADVANCED FINANCIAL ANALYSIS: Study of current developments in financial planning, acquisition of funds, asset management valuation; policy strategy and techniques in financial decision making. Prerequisite: FIN 301. *3 sem. hrs.*

FIN 491-492. HONORS THESIS: Selection, design, investigation, and completion of an independent original research thesis under the guidance of a departmental faculty member. Restricted to students in the University Honors Program with permission of the director of the program and the departmental chairperson. *3 sem. hrs. each*

FIN 496. CO-OP WORK TERM: For students earning credit through Cooperative Education program. See Co-op Office for details. Credit does not count towards finance major, but may be used as general elective. *3 sem. hrs.*

FIN 497. LABORATORY WORK EXPERIENCE: Under School of Business sponsorship and in association with participating industrial, commercial, educational, healthcare, or governmental organizations, practical experience in work associated with the student's major or minor concentration. (See internship coordinator for further information.) Does not count toward finance major. Permission of chairperson. *3 sem. hrs.*

FIN 498. STUDIES IN FINANCE (HONORS): Directed readings and research in selected fields of finance. The number of sem. hrs. will depend on the amount of work chosen. The course will involve periodic discussions with other students and faculty in the program. May be taken more than once for additional credit. Prerequisite: 3.0 average in finance with a minimum of 9 sem. hrs. in finance. *1-6 sem. hrs.*

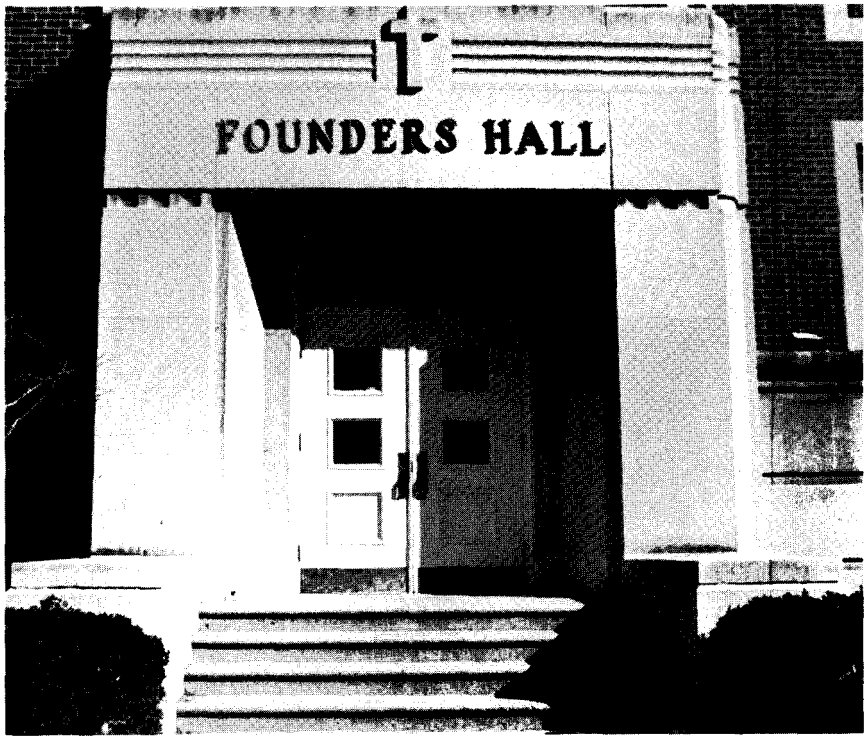
INTERDISCIPLINARY STUDIES (BAI)

Information is available in the Office of the Dean of the School of Business Administration.

BAI 301. PRACTICUM IN INTERNATIONAL BUSINESS: Study and analysis of international business concepts: objectives and ethics; planning; decision-making; business skills and entrepreneurial aptitudes. Comparative analysis of various cultures and their impact on international business operation. *3 sem. hrs.*

BAI 497. LABORATORY WORK EXPERIENCE: Under faculty sponsorship and in association with participating industrial, commercial, educational, health care, or governmental organizations, practical experience in work associated with the student's major or minor concentration. See internship coordinator for further information. *3-6 sem. hrs.*

BAI 499. DECISION MAKING WITHIN THE FIRM—AN INTERDISCIPLINARY APPROACH: Analysis and decision making in a corporate management team. Students manage a computer-simulated business in competition with student teams at other universities. Preparation of an annual report and a presentation before faculty and business persons. Selected students make this presentation at Emory University in connection with the Intercollegiate Business Conference. *3 sem. hrs.*



MANAGEMENT (MGT)

Management is defined as the planning, organizing, directing, and controlling of an enterprise's operations so that objectives can be achieved economically and effectively. Since management is the art and science of achieving goals through people and other resources, the basic job of the management person is to supervise people in the achievement of goals. The actual functions performed may include anything from operations, sales, and personnel to transportation of goods or analysis of a computer system. The management program equips students to seek careers in military, religious, educational, business, or governmental organizations. In addition, through the proper selection of electives, the student may obtain some specialization in personnel and industrial relations, strategic management, and the legal environment of business.

The major in management consists of MGT 318, Organization Behavior; DSC 365, Management Systems; MGT 443, Organization Theory; and nine semester hours of management electives. The following outline of courses indicates the upper-level work required for a Bachelor of Science with a Major in Management.

PROGRAM—B2: BACHELOR OF SCIENCE WITH A MAJOR IN MANAGEMENT (MGT)

Dept.	*No.*	*Course*	*Semester Hours*	
		Junior Year	1st Term	2nd Term
DSC	316	Production/Operations Management		3
ECO	347	Intermediate Macroeconomic Analysis	3	
FIN	301	Business Finance	3	
MGT	305	Management and Organization	3	
MGT	318	Organization Behavior		3
MKT	305	Principles of Marketing	3	
—	—	Communication elective[1]		3
—	—	General education requirement[2]		3
—	—	General electives[3]	3	3
			15	15
		Senior Year		
DSC	365	Management Systems	3	
MGT	423	Business Policies and Management		3
MGT	443	Organization Theory		3
MGT	—	Management electives[4]	6	3
PHL	313	Business Ethics		3
—	—	General education requirement[2]	3	
—	—	General electives[3]	3	3
			15	15

[1]Select one course from the following: ENG 370, 372; COM 308, 310; SPE 312. No substitutions.

[2]See General Education Requirements, Chapter V. Some general education courses are specified in the program (e.g., PHL 313); others are to be chosen from the listing of approved courses. Consult advisor.

[3]At least 3 sem. hrs. of the general electives must be taken outside the School of Business Administration. All general electives must be at the 300-400 level. In choosing courses, students should bear in mind that a minimum of 60 sem. hrs. of all academic work must be at the 300-400 level and all general education course requirements must be satisfied.

[4]Select these MGT courses, which must be at the 300-400 level, in consultation with program advisor.

The following courses are required for a minor in management:

MGT 305: Management and Organization
MGT 318: Organization Behavior
MGT 443: Organization Theory
plus six semester hours of 300-400 level management courses other than MGT 423. Note: Students enrolled in the School of Business Administration may not use core courses for the six-semester-hour requirement.

FACULTY

David Lee, *Chairperson*
Professors: Gould, McClaine, Scheidler
Associate Professors: Balloun, Lee, Miller, Schenk, Stough, Tewari, Washing
Assistant Professors: Berger, Konstantinovich
Adjunct Professors: Cookson, Quinn
Part-time Instructors: Heckman, Palmert, Steel, Stephenson

COURSES OF INSTRUCTION

MGT 102. AMERICAN BUSINESS ENVIRONMENT: Introduction to basic business concepts and the functional business areas—marketing, management, accounting, finance, and economics. *3 sem.hrs.*

MGT 203. BUSINESS LAW I: Introduction to the legal system and judicial process as they affect the business community. Development of legal reasoning in substantive law of contracts, torts, and agency. *3 sem.hrs.*

MGT 304. BUSINESS LAW II: Development and application of the Uniform Commercial Code as addressing legal reasoning in substantive areas of commercial paper and sales. *3 sem. hrs.*

MGT 305. MANAGEMENT AND ORGANIZATION: Analysis of the general nature and functions of management with emphasis on planning, organizational behavior, and individual behavior within modern organizations. Prerequisite: Junior standing. *3 sem. hrs.*

MGT 308. SMALL BUSINESS MANAGEMENT: Basic management and business functions of small firms which are independently owned and operated and not dominant in their fields of operation. Prerequisite: MGT 305. *3 sem.hrs.*

MGT 314. PERSONNEL MANAGEMENT: Study of the basic personnel management functions—employment, wage and salary administration, training and development, labor relations, health and safety, and organizational and manpower planning—and their related policies in order to enhance the productivity and satisfaction of the people at work. Prerequisite: MGT 305. *3 sem. hrs.*

MGT 318. ORGANIZATION BEHAVIOR: Introduction to the study and practical applications of organizational behavior. This field of study concerns the behavior of people as they interact within organizations to achieve both personal and organizational goals. Prerequisite: MGT 305. *3 sem. hrs.*

MGT 403. BUSINESS LAW III: Development and application of the law of property as an institution with concurrent analysis of the legal structure of the business organization as an economic and legal entity. *3 sem. hrs.*

MGT 417. INDUSTRIAL RELATIONS: Interrelationships and interaction of the employer and the employee in the public and private sectors in conflict and accommodation. The structure and nature of management-union relationships and agencies created by these relationships. Prerequisite: MGT 305. *3 sem. hrs.*

MGT 419. COLLECTIVE BARGAINING, MEDIATION, AND ARBITRATION: Meaning, practices, principles, and organization of collective bargaining; techniques of mediation and agencies for effective mediation; major economic problems involved in the adjustment of labor disputes. Prerequisite: MGT 305. *3 sem. hrs.*

MGT 423. BUSINESS POLICIES AND MANAGEMENT: The concept of organizational strategy and policy; the tasks and process of strategy formulation and implementation. Case method and/or computer simulation to enhance analytical and problem-solving abilities. Prerequisites: Senior standing in SBA; core SBA courses. *3 sem. hrs.*

MGT 430. MULTINATIONAL CORPORATE MANAGEMENT: Introduction to multinational corporation strategies, policies, and various types of environments. Prerequisite: Senior standing. *3 sem. hrs.*

MGT 435. SEMINAR IN STRATEGIC MANAGEMENT: Analysis and interpretation of the strategic functions within organizations. Readings, cases, exploratory research. Prerequisites: Senior standing, MGT 305. *3 sem. hrs.*

MGT 440. WOMEN IN MANAGEMENT: Study of the problems women encounter when entering the predominantly male business world. Discussion includes why some bright women fail, why some do not try to compete, problems of the two-career family, sex stereotyping, and harassment. Prerequisite: MGT 305 or equivalent. *3 sem. hrs.*

MGT 441. MANAGEMENT AND SOCIETY: Business firm's relation with society. Technological change, racism, poverty, affirmative action, urban problems, and environmental concerns. Prerequisite: MGT 305. *3 sem. hrs.*

MGT 443. ORGANIZATION THEORY: A study of the schools of management and their theories and/or principles and the problems and issues surrounding them. Prerequisites: Senior standing; MGT 305. *3 sem. hrs.*

MGT 450. MANAGEMENT SEMINAR (HONORS): A course in research on a subject within the student's major. Open only to those who have attained a cumulative grade point average of 3.0 or above in their sophomore and junior years. Prerequisites: Senior standing; permission of chairperson. *3 sem. hrs.*

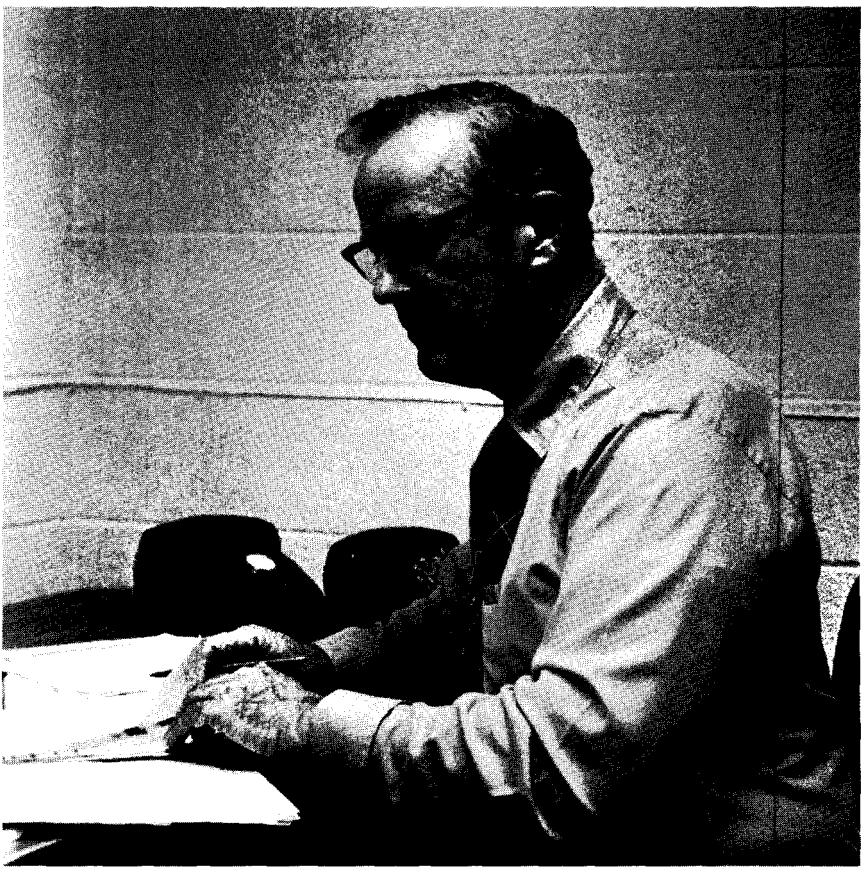
MGT 460. SMALL BUSINESS CONSULTING: Application of business knowledge in resolving small business management problems. Emphasis on providing assistance and counseling to small business by giving the student an opportunity to aid in solving problems. Various techniques and methods of management consulting. Prerequisites: Senior standing; permission of chairperson. *3 sem. hrs.*

MGT 491-492. HONORS THESIS: Selection, design, investigation, and completion of an independent original research thesis under the guidance of a departmental faculty member. Restricted to students in the University Honors Program with permission of the director of the program and the departmental chairperson.
3 sem. hrs. each

MGT 495. INDEPENDENT STUDY: Supervised study involving directed readings, individual research (library, field, or experimental), or projects in specialized areas of management. May be taken only once. Prerequisites: Major in MGT; senior standing; permission of chairperson. *3 sem. hrs.*

MGT 497. INTERNSHIP WORK EXPERIENCE: An off-campus position in a management area carried out under the auspices and supervisory authority of a participating industrial, commercial, educational, health care, or governmental organization. Prerequisite: Permission of chairperson. *3 sem. hrs.*

MGT 498. COOPERATIVE EDUCATION PROGRAM: An optional program of full-time, on-campus study alternating with terms of full-time, off-campus work training. Provides on-the-job experience, academic motivation, and financial assistance to the student. *3 sem. hrs.*



MARKETING (MKT)

The marketing management concept requires a systematic approach to the discovery and satisfaction of consumer wants as a basis for successful administration. It has been broadened in recent years to include the development of organizational members to their fullest potential and the achievement of social purposes.

Although the student often enters with an interest in a single phase of marketing, the emphasis in the curriculum is on the marketing concept as stated above. Thus, any specialized activity is studied as a part of the total marketing process which in turn must be integrated with the objectives of a business firm, the functioning of an economic system, and the constraints of society.

The goal is to build specialization on a base made up of the general education required for all students and a core of courses required of students in the School of Business Administration.

Within the marketing specialization the purpose is as follows:

1. To develop a student of marketing who has the tools and the groundwork for continued study after graduation. Applications of the social sciences and quantitative techniques are stressed. Communication skills are emphasized. Understanding of institutions and nomenclature is essential.
2. To develop a practitioner of marketing with interests, attitudes, and sufficient understanding to be potentially productive at a responsible level of decision making with both domestic and international perspectives.
3. To provide marketing majors flexibility in course selection and to provide some breadth of choice among marketing courses as electives for nonmarketing majors both within and outside the School of Business Administration.

The Department of Marketing is represented through institutional or faculty memberships in the American Academy of Advertising, the American Collegiate Retailing Association, the American Marketing Association, the Audit Bureau of Circulation, the Direct Mail Marketing Association, and the Sales and Marketing Executives International.

The breadth and selection of courses available provide for either a broad coverage of marketing or specialization in the form of one or more options. Thus the student with the help of an advisor can choose any of the marketing courses in fulfilling the 18 semester hours of marketing requirements and electives. The following are among the specializations:

Marketing Management
Marketing Research
Multinational Marketing
Advertising
Retailing
Salesmanship

NOTE: A major in marketing requires MKT 405, Consumer Behavior; MKT 430, Marketing Research; and four additional marketing elective courses. The courses may be used to complete one or more of the optional concentrations listed above or they may be selected to fulfill the program developed for the particular student. A minor in marketing requires MKT 305, Principles of Marketing, and 12 semester hours of additional courses in a pattern chosen in consultation with the chairperson of the Department of Marketing.

PROGRAM—B4: BACHELOR OF SCIENCE WITH A MAJOR IN MARKETING (MKT)

Dept.	*No.*	*Course*	*Semester Hours*	
		Junior Year	1st Term	2nd Term
DSC	316	Production/Operations Management		3
ECO	347	Intermediate Macroeconomic Analysis		3
FIN	301	Business Finance	3	
MGT	305	Management and Organization	3	
MKT	305	Principles of Marketing[1]	3	
MKT	405	Consumer Behavior		3
MKT	430	Marketing Research		3
PHL	313	Business Ethics	3	
—	—	General education requirement[2]		3
—	—	General elective[3]	3	
			15	15
		Senior Year		
MGT	423	Business Policies and Management		3
MKT	—	Marketing courses[4]	6	6
—	—	Communication elective[5]	3	
—	—	General education requirement[2]	3	
—	—	General electives[3]	3	6
			15	15

[1]Must be taken in first term. Some courses can be taken either term. Consult advisor.

[2]See General Education Requirements, Chapter V. Some general education courses are specified in the program (e.g., PHL 313); others are to be chosen from the listing of approved courses. Consult advisor.

[3]At least 3 sem. hrs. of the general electives must be taken outside the School of Business Administration. All general electives must be at the 300-400 level. In choosing courses, students should bear in mind that a minimum of 60 sem. hrs. of all academic work must be at the 300-400 level and all general education course requirements must be satisfied.

[4]Marketing courses selected in consultation with program advisor.

[5]Choose a course from the following: ENG 370, 372; COM 308, 310; SPE 312. No substitutions.

FACULTY

William S. Sekely, *Chairperson*
Associate Professors: King, Lewis, Merenski, Sekely
Assistant Professors: Kline, Oumlil, Yates
Lecturer: Moffat
Adjunct Professor: Metzger

COURSES OF INSTRUCTION

MKT 305. PRINCIPLES OF MARKETING: The general principles and practices underlying the processes of marketing. Analysis of the environmental conditions of manufacturers, wholesalers, retailers, and other marketing agencies. Prerequisite: Junior standing. *3 sem. hrs.*

MKT 310. PRINCIPLES OF SELLING: The nature of selling, explored through the practical application of buying motives and selling techniques. Projects and role-playing to experience the preparation, presentation, and closing of sales. Prerequisite: Junior standing. *3 sem. hrs.*

MKT 315. RETAIL MERCHANDISING: Survey of the development of retailing and the impact of consumer behavior, fashion, computers, and other innovations. Structural organization, location, and layout. Merchandising operations including planning of sales, purchases, stock control, markup, and expense control. Prerequisite: MKT 305. *3. sem. hrs.*

MKT 318. RETAIL ADVERTISING AND SALES PROMOTION: Principles and practices of promotion in retail stores with emphasis on advertising, display, and sales promotion. Developing creative efforts, budgeting, and coordination of where, when, what, and how to promote. Prerequisites: MKT 305, 315. *3 sem. hrs.*

MKT 341. BUSINESS-TO-BUSINESS MARKETING: Concepts and analytical procedures associated with marketing to business. Business consumer and competitor analysis, marketing information systems, marketing research, and demand forecasting. Strategy development in product, promotion, distribution, and pricing with focus on manufacturers of business products. Prerequisite: MKT 305. *3 sem. hrs.*

MKT 405. CONSUMER BEHAVIOR: Comprehensive study of buyer decision making which offers insight into the buyer-seller relationship. Application of theories from psychology and social psychology to investigate the behavior of industrial and consumer buyers. Prerequisite: MKT 305. *3 sem. hrs.*

MKT 406. CHANNELS OF DISTRIBUTION: Contemporary marketing channels including structure, participants, legal environment, and interorganizational behaviors; channel design and management by manufacturers, wholesalers, retailers, and franchise systems; performance measurement and future trends. Prerequisite: MKT 305. *3 sem. hrs.*

MKT 411. SALES MANAGEMENT: The structure of the sales organization; determination of sales policies: selection, training, and motivation of salespersons; establishing sales territories and quotas. Prerequisite: MKT 305. *3 sem. hrs.*

MKT 417. RETAIL BUYING AND MERCHANDISING: Determining what and how much to buy, market research, and model stocks, as well as the mathematic principles involved in purchase planning, planning initial markup, terms and dating, stockturn, inventory methods. Prerequisites: MKT 305, 315. *3 sem. hrs.*

MKT 420. MARKETING COMMUNICATIONS: Comprehensive study of the marketing communications of an organization, regarding product, price, promotion, and distribution. Marketing communication viewed as a continuous process with emphasis on its behavioral aspects. Prerequisite: MKT 305. *3 sem. hrs.*

MKT 421. ADVERTISING: Nature and scope of advertising, social and economic aspects, role of research, creative strategy, media planning and selection, coordination with other marketing efforts. Prerequisite: Junior standing. *3 sem. hrs.*

MKT 430. MARKETING RESEARCH: Study of marketing information systems, research technology, value of information, research design and execution, questionnaire design, measurement and scaling, multivariable data analysis, metric and nonmetric techniques, data interpretation, computer applications, and writing and interpreting research reports. Prerequisites: MKT 305, DSC 210-211. *3 sem. hrs.*

MKT 440. MULTINATIONAL MARKETING: Emphasis on understanding foreign marketing environments, developing skills of foreign market analysis, designing and developing appropriate marketing strategies for foreign markets, decision making in multinational marketing. Prerequisite: MKT 305. *3 sem. hrs.*

MKT 445. SPECIAL TOPICS IN INTERNATIONAL MARKETING: Study abroad program. Subject varies from time to time. May be taken more than once if topic changes. Prerequisite: Junior standing. *3 sem. hrs.*

MKT 451. MARKETING POLICIES AND STRATEGIES: Integration course in marketing with emphasis on managerial decision making. Quantitative analysis for decision making regarding products, distribution systems, promotion strategies, and pricing decisions. Prerequisites: 15 sem. hrs. of marketing including MKT 305. *3 sem. hrs.*

MKT 491-492. HONORS THESIS: Selection, design, investigation, and completion of an independent original research thesis under the guidance of a departmental faculty member. Restricted to students in the University Honors Program with permission of the director of the program and the departmental chairperson. *3 sem. hrs. each*

MKT 494. SPECIAL TOPICS IN MARKETING: Subject varies from time to time. May be taken more than once if topic changes. Prerequisite: Varies with topic. *3 sem. hrs.*

MKT 497. LABORATORY WORK EXPERIENCE: Under faculty sponsorship and in association with participating industrial, commercial, educational, health-care, or governmental organizations, practical experience in work associated with the student's major or minor concentration. (See internship coordinator for details.) Permission of chairperson required. *1-3 sem. hrs.*

MKT 498. COOPERATIVE EDUCATION: Optional full-time work period off campus alternating with study period on campus. (See Chapter X; consult Cooperative Education Office for details.) Permission of chairperson required. *3 sem. hrs.*

MKT 499. PROBLEMS IN MARKETING (HONORS CREDIT): Study of one or more specific aspects of the marketing process with emphasis on individual reading and research. Subject matter to be determined by the instructor on the basis of interest and need of the student. Enrollment limited. Permission of chairperson required. *3 sem. hrs.*

TEACHER CERTIFICATION

SCHOOL OF BUSINESS ADMINISTRATION BACCALAUREATE PROGRAM WITH TEACHER CERTIFICATION (E11B)

Students matriculating in the School of Business Administration may enroll in the teacher education program (Secondary Education Program) of the School of Education without transferring to the School of Education. For requirements in professional education courses and in teaching fields consult the chairperson of the Department of Teacher Education.

Enrollment in the E11B program is subject to the admission requirements, counseling, maintenance of a unified system of records, screening, and other provisions standard for regular students of the School of Education working toward the Bachelor of Science in Education. These include maintaining at least a 2.5 average in the principal teaching field and in professional education courses and taking the comprehensive National Teacher Examinations (NTE). Upon acceptance into the program each student is assigned an education advisor for counseling on certification requirements.

In order to finish in four years, students in the School of Business Administration will need to process their applications for admission to the teacher education program no later than the third semester of matriculation, at which time the professional education sequence should begin. Failure to enroll on time could necessitate going beyond the normal four years to qualify for teacher certification and graduation. The requirements for the School of Business Administration as well as the requirements designated by the School of Education and the State of Ohio for secondary school certification must be completed before any degree is granted. Students must complete 300 hours of field/clinical experience before student teaching.

Students who have completed the proper course requirements may register for student teaching in the eighth semester (provided their applications for student teaching are duly processed at the beginning of the semester directly prior to student teaching and they have passed the normal screening procedure).

Students who have completed the requirements for teacher certification should make application for the standard four-year Provisional Ohio Teaching Certificate through the Office of the Dean, School of Education. See also EDT, Chapter VIII.

PROGRAM E11B: SECONDARY SCHOOL TEACHING CERTIFICATION

Dept.	*No.*	*Course*	*Semester Hours*	
		Freshman Year	1st Term	2nd Term
DSC	103	Introduction to Computers and Information Processing	3	
EDT	110	The Profession of Teaching[1]		2
ENG	101-102	College Composition I and II	3	3
MTH	110-111	Quantitative Analysis for Business I and II	3	3
PHL	103	Introduction to Philosophy	3	
SPE	101	Fundamentals of Effective Speaking	3	
—	—	Typewriting[2]	3	3
—	—	General education requirements[3]		7
			18	18

		Sophomore Year		
ACC	207-208	Principles of Accounting	3	3
DSC	210-211	Statistical Analysis for Business I and II	3	3
ECO	203-204	Principles of Economics	3	3
EDT	207	Child and Adolescent in Education	3	
EDT	208	Teaching and Learning[1]		3
MGT	203	Business Law I	3	
—	—	General education requirements[3]	3	6
			18	18
		Junior Year		
ECO	347	Intermediate Macroeconomic Analysis		3
EDT	318	Human Relations in Education[4]	2	
EDT	351	Secondary School, Self and Society[1]	3	
FIN	301	Business Finance	3	
MGT	305	Management and Organization		3
MKT	305	Principles of Marketing	3	
PHL	313	Business Ethics		3
—	—	Required major field courses[5]	6	6
—	—	General education requirement[3]		3
			17	18
		Senior Year		
DSC	316	Production/Operations Management	3	
EDT	327	Business Education in Secondary School	4	
EDT	419	Philosophy of Education		3
EDT	420	Student Teaching: Secondary		9
EDT	469	Reading in the Content Areas	2	
MGT	423	Business Policies and Management	3	
—	—	Required major field courses[5]	6	
			18	12

[1]Field experience; register for EDT 100 section. Note also that EDT 109 is not included in required courses; the 20 sem. hrs. clinical experience must be made up.

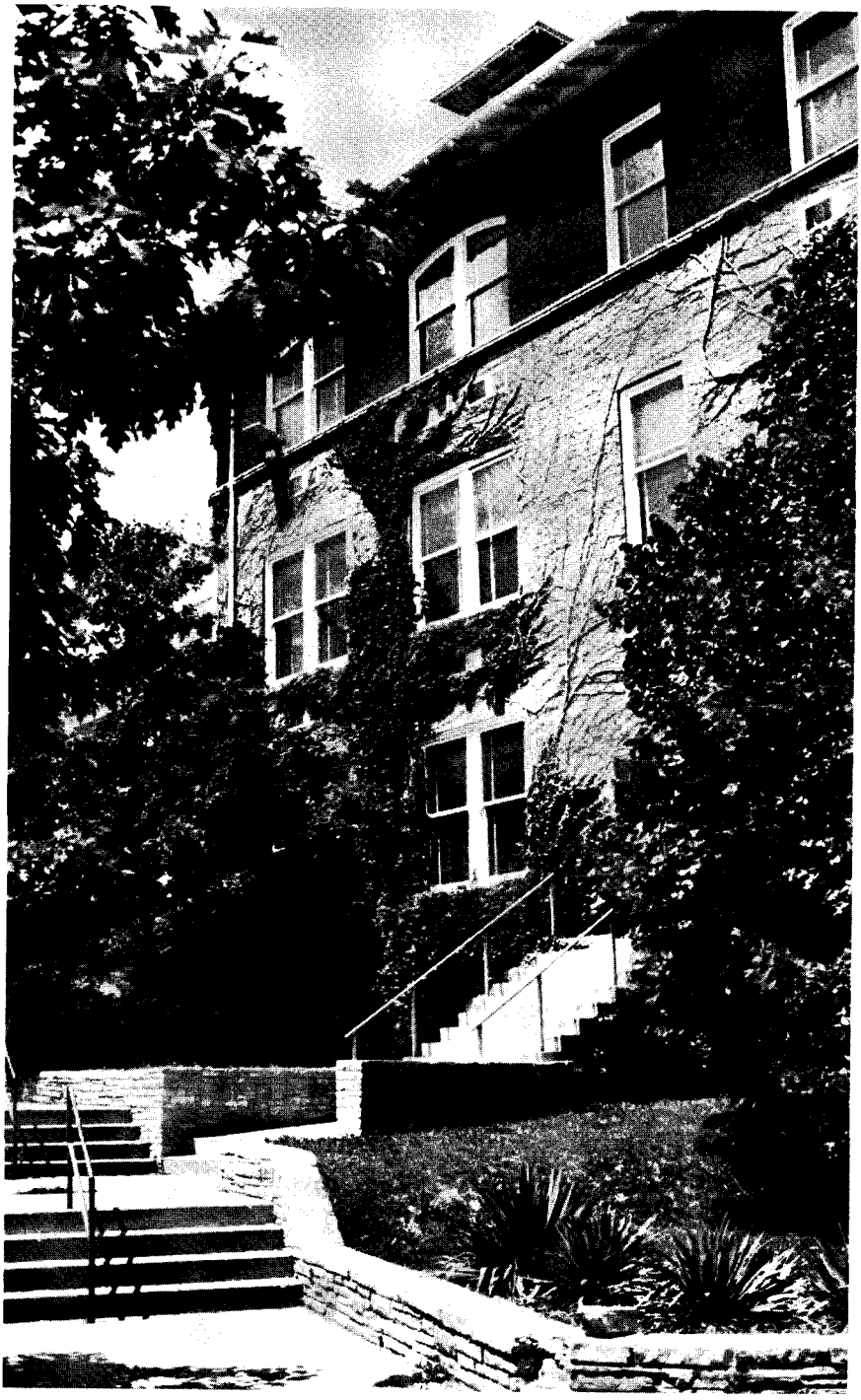
[2]Must be taken off campus; need transcript with 8 qtr. hrs. or 6 sem. hrs.

[3]See General Education Requirements, Chapter V. Some general education courses are specified in the program (e.g., PHL 313); others are to be chosen from the listing of approved courses. Consult checksheets and advisor.

[4]Not required for students with management major, who take MGT 318.

[5]Accounting, economics, finance, management, marketing.

NOTE: The sample program above prepares the student for certification in bookkeeping and basic business and typing. Additional certification is available with the inclusion of a few other courses. Consult checksheets and advisor.



VIII School of Education

Ellis A. Joseph, Dean
Jerrold D. Hopfengardner, Associate Dean
Joseph E. White, Assistant Dean

In conformity with the University's purposes, the School of Education endeavors to foster both the development of those general capacities of the students which flow directly from their human nature and the development of those particular capacities which enable them to become effective practitioners in the field of professional education.

The general capacities of the students are developed through a broad and sound general education. It acquaints them with the major areas of knowledge and provides planned opportunities for personal, social, and ethical development.

The particular concern of the School is the professional preparation of teachers for the elementary and secondary schools. Provisions for professional competence are made through (1) comprehensive study of specialized teaching fields, (2) thorough study of the professional foundations common to all teaching, and (3) specialized study of the principles underlying a particular type and level of teaching.

Students in the School of Education should appraise their commitment to teaching according to their development in specific knowledge, skills, attitudes, and values:

Knowledge: Students will demonstrate their knowledge of the teaching and learning process; of human nature and of human development, particularly in educational settings; of the means and ends of education; of the subjects they wish to teach; and of the special needs of the handicapped and students of minority groups.

Skills: Students will be able to assess pupil needs, interests, and level of understanding; to formulate learning objectives; to select appropriate learning content, materials, and activities; to facilitate learning activities and provide effective learning environments; to evaluate pupil progress and provide for self-evaluation by pupils; to assess their own teaching competencies and the effect these have on pupil learning; to foster tolerance and fairness in human relations; and to apply theory to practice in planned and supervised field experiences. Demonstrated competencies are essential in meeting the special needs of handicapped and minority-group pupils.

Attitudes: Students will seek self-development; accept others; trust, be open to and help others; and be enthusiastic for inquiry, experimentation, and discovery.

Values: Students will be committed to education for the betterment of others and society; to the Judeo-Christian principles that refer to a shared common humanity, the dignity of the person, the use of reason, and cooperation in seeking the common good and social justice; to the democratic principles; to a humanistic approach to learning; and to the Marianist tradition in education.

DEGREE REQUIREMENTS

In this chapter are described specific four-year course requirements for certification in elementary, secondary, and special (art, physical education, health education) teaching. All of these programs lead to the same degree—Bachelor of Science in Education (B.S. in Ed.). Other certifications and validations can also be obtained as part of the four-year programs.

The departments have an extensive screening process for students in the first two years of the program. At the end of their sophomore year, all students are required to apply for formal admission to the certification program. At this point their work is reviewed by a faculty committee to determine the extent to which their personal traits, academic work, etc. point toward the likelihood of their success as professional teachers.

As a rule the School of Education will not recommend students for graduation unless these students can also qualify for teacher certification.

The responsibility for meeting the University and State requirements rests with the student. The student is cautioned to study the course requirements and to keep accurate count of the semester hours applicable to graduation. Students planning to teach in states other than Ohio should fulfill University requirements as well as those of the state in which they desire to teach. (Consult *Requirements for Certification* by Woellner, University of Chicago Press; this book is constantly available both in the School of Education Office, Room C-104, and in the Curriculum Materials Center, Room C-114).

Requirements for graduation and teacher certification are the following:

1. Evidence of such general scholarship and personal and moral qualities as give promise of professional success.
2. Evidence of participation in a variety of planned clinical and field experiences essential to the development of the resourcefulness needed by teachers.
3. Successful completion of a minimum of 124 semester hours in approved courses; some programs require more than 124 semester hours.
4. An overall cumulative point average of at least 2.0 (C) and a cumulative point average of at least 2.5 for the professional education courses and for the principal teaching field. A 2.5 cumulative average is also required for other teaching fields. Courses in professional education and in the teaching fields must be taken under grading option 1.
5. Successful completion of the following professional education sequence:

		Semester Hours
A.	Personal and Professional Development of the Teacher	2-4
B.	Child and Adolescent in Education	3
C.	Teaching and Learning	3
D.	Teaching in the Elementary School *or* The Secondary School, Self, and Society	3
E.	Special Methods[1]	varies
F.	Philosophy of Education	3
G.	Student Teaching	12

[1]Each program has one or more methods courses; see specific programs.

With the possible exception of A and B, all courses in the above sequence must be taken at the University of Dayton. Transfer credits from other institutions normally are not accepted in substitution for courses C through F, and never accepted for student teaching.

6. Completion of University requirements in general education and basic skills. Students should see Chapter V and consult with their advisors.
7. A passing score on the Preprofessional Skills Test, normally taken in the second term of the sophomore year.
8. Completion of the National Teacher Examinations (NTE), comprehensive examinations including a core battery of three tests and a specialty area test in the major certification area. (Exception: Health education majors take the core battery only.) The examinations should be taken no later than one term prior to the term in which the student expects to be graduated. Delay in taking the examination will lead to postponement of graduation and certification. Students should be sure to consult the Education Office for dates on which the examination will be administered.

COUNSELING

All freshman education students are assigned faculty advisors from the departments in which they are enrolled. All students report to these advisors for proper guidance at least once every semester before registration.

UNIVERSITY POLICIES

Students are reminded to refer to pertinent sections of this *Bulletin* and the *Student Handbook* for all policies to which they are subject.

STUDENT TEACHING

Student teaching, which consists of actual classroom teaching under competent supervision, involves full-day sessions for approximately one semester. During the semester of student teaching, the student is not ordinarily permitted to carry more than three semester hours of additional course work. These additional semester hours are scheduled outside the normal school day in order to keep the student-teaching experience intact for the full school day. Students should make their financial arrangements such that they need not continue with part-time employment during this semester.

The faculty of the School of Education screen each candidate who applies for student teaching on the basis of the following factors: (1) skill in oral and written communication, (2) quality-point average in course work (at least 2.5 for professional education courses and for principal teaching field and at least 2.5 for a second teaching field), (3) physical and emotional fitness, (4) desirable personal and moral traits, (5) completion of the prerequisite courses and field and clinical experiences.

Prerequisites for candidacy for student teaching are (1) official enrollment in a teacher education program at the University, (2) prospective completion of the minimum residence requirement of thirty semester hours inclusive of student teaching, (3) formal application for processing by the screening committee to

whom application must be submitted a term in advance of student teaching. (Application blanks may be secured from the department offices, C205 and FH4.)

The campus supervisors have direct charge of the student teaching experience.

Once a week throughout the term a student teaching seminar is held on campus.

Once students have been approved and placed for student teaching, they may not withdraw from the program except with the approval of the department chairperson. A student who withdraws without this approval forfeits future placement in student teaching.

TEACHER PLACEMENT

Students who qualify for teacher certification through the School of Education are aided in securing teaching positions by the School's placement service

in Chaminade Hall, Room C-219. Placement requires cooperation from the candidate in filling out the necessary papers and in submitting recommendations. Dates for interviews with prospective employers arranged by the School of Education Placement Office are announced in advance.

TEACHER CERTIFICATION

The School of Education is on the approved lists of the State Department of Education and of the National Council for Accreditation of Teacher Education.

Ordinarily, Ohio certificates are recognized by other states.

In addition to preparing properly certified elementary and secondary teachers, the School also enables students to qualify for kindergarten-primary certification and for special certification in art, physical education, health education, driver education, music, reading, and the teaching of the handicapped in three fields: learning and behavior disorders; educable mentally retarded; and moderately, severely, and profoundly retarded.

ATHLETIC TRAINING CERTIFICATION

The Department of Physical and Health Education offers two programs in athletic training. The University of Dayton Certificate curriculum is open to any student in the School of Education. This program consists of 26 semester hours of classroom work and 100 supervised internship hours. Students complete 50 hours of on-campus and 50 hours of off-campus internship, all of which are supervised by N.A.T.A. Certified Athletic Trainers. The State Certification curriculum enables a student to meet the State of Ohio certification requirements upon graduation. This program is designed to give the student a variety of clinical experiences with team physicians, physical therapists, hospitals, and high school athletic programs. See EDP (also EDD, EDH).

INTERSCHOLASTIC COACHING CERTIFICATION

The Certification of Interscholastic Coaches program may be pursued by any student in the School of Education. See EDP (also EDD).

BACCALAUREATE PROGRAMS

The School of Education offers and administers nine basic programs leading to the baccalaureate degree. (Six of these are outlined and their requirements and options discussed in detail later in this chapter under code designations of course subject matter—for example, EDT signifies Teacher Education.) These are as follows:

PROGRAM—E1: ELEMENTARY EDUCATION, grades 1-8
- E1a: SPECIAL EDUCATION, Mentally Retarded (Developmentally Handicapped), K-12
- E1b: SPECIAL EDUCATION, Moderately, Severely, and Profoundly Retarded, K-12
- E1c: SPECIAL EDUCATION, Learning Disabilities and Behavior Disorders, K-12

E1d: EARLY CHILDHOOD EDUCATION
E1e: READING TEACHER, validation K-12
See EDT.

PROGRAM—E2: SECONDARY EDUCATION, grades 7-12
E2a: SPECIAL EDUCATION, Educable Mentally Retarded (Developmentally Handicapped), K-12
E2b: SPECIAL EDUCATION, Moderately, Severely, and Profoundly Retarded, K-12
E2c: SPECIAL EDUCATION, Learning Disabilities and Behavior Disorders, K-12
E2d: SPECIAL EDUCATION, MSPR, validation K-12 (in art, home economics, music, and physical education only)
E2e: READING TEACHER, validation K-12
See EDT.

PROGRAM—E3: PHYSICAL EDUCATION K-12
E3a: PHYSICAL EDUCATION 7-12
See EDP (also EDD, EDH).

PROGRAM—E4: HEALTH EDUCATION
E4a: HEALTH INFORMATION SPECIALIST
See EDH (also EDD, EDP).

PROGRAM—E5: MUSIC EDUCATION, K-12
See 1984-85 Bulletin. See also MUS, Chapter VI.

PROGRAM—E6: ART EDUCATION, K-12
See EDT. See also ART, Chapter VI.

PROGRAM—E8: EXERCISE SCIENCE AND FITNESS MANAGEMENT
See EDP (also EDD, EDH).

PROGRAM—E11A: TEACHER CERTIFICATION for students in the College of Arts and Sciences
E11B: TEACHER CERTIFICATION for students in the School of Business Administration
See EDT. See also EDT, Chapters VI and VII.

GRADUATE PROGRAMS

For in-service teachers, the School of Education offers six graduate programs leading to the Master of Science in Education; these are designed to prepare master secondary teachers, master elementary teachers, school counselors, school psychologists, social agency counselors, college student personnel professionals, school administrators, and educational research specialists. For non-professional degree holders who are interested in becoming certified teachers, the Department of Teacher Education offers graduate programs leading to elementary and secondary certification. For in-service teachers who wish to retrain for certification in other areas, the Department of Teacher Education offers a variety of programs. (For details on the graduate programs request a copy of the Graduate Issue of the University of Dayton Bulletin.)

INTERDISCIPLINARY STUDIES (EDI)

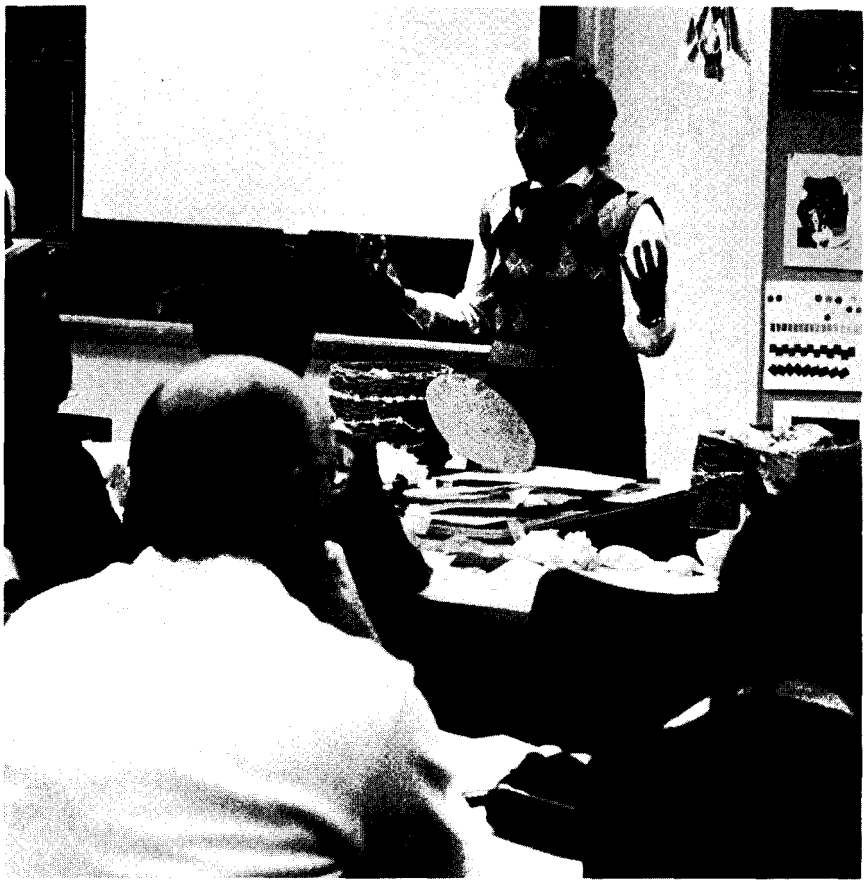
Information is available in the Office of the Dean of the School of Education.

COURSES OF INSTRUCTION

EDI 424. CURRICULUM ENRICHMENT—STUDIES ABROAD: Study of educational philosophies, policies, and programs of other countries in comparison with those of the U.S. *3 sem. hrs.*

EDI 498. HONORS SEMINAR I: Honors student develops honors project. Prerequisite: Permission of director of Honors Program. *3 sem. hrs.*

EDI 499. HONORS SEMINAR II: Honors student completes honors project. Prerequisite: Permission of director of Honors Program. *3 sem. hrs.*



PHYSICAL AND HEALTH EDUCATION (EDP, EDH)

The mission of the Department of Physical and Health Education is to prepare qualified students to be proficient and professional in a vocation encompassing the health, recreational, and physical fitness needs of both youths and adults. The department prepares health and physical education teachers, coaches, athletic trainers, and driver education teachers to meet the needs of the public and private schools. It also prepares exercise science and fitness management specialists for careers in corporations, industries, hospitals, and university wellness programs. A health specialist program is offered for students interested in working with health agencies.

PROGRAM—E3: PHYSICAL EDUCATION (EDP) K-12

Dept.	*No.*	*Course*	*Semester Hours*	
		Freshman Year	*1st Term*	*2nd Term*
EDD	109-110	Personal and Professional Development	2	2
EDP	180-199	Physical Education Activities	2	2
ENG	101-102	College Composition I and II	3	3
HST	102	History of Western Civilization Since 1789	3	
MTH	107	Fundamentals of Mathematics	3	
SPE	101	Fundamentals of Effective Speaking		3
—	—	General education requirements[1]	3	6
			16	16
		Sophomore Year		
EDD	251	School Health Program	3	
EDD	305	Human Anatomy and Laboratory		3
EDP	180-199	Physical Education Activities	.2	2
EDP	200	Motor Learning	2	
EDP	220	Adapted Physical Education[2]	3	
EDP	223	Basic Movement Education	3	
EDP	275	History of Physical Education and Sports		3
EDT	207	Child and Adolescent in Education	3	
EDT	208	Teaching and Learning[2,3]		3
—	—	General education requirements[1]		6
			16	17
		Junior Year		
EDD	222	Audio-visual Materials and Equipment	1	
EDD	306	Human Physiology	3	
EDD	336	Standard First Aid and Personal Safety		2
EDD	337	Cardiopulmonary Resuscitation		1
EDP	180-199	Physical Education Activities	2	2
EDP	300	Methods of Teaching Physical Education	3	
EDP	324	Elementary Physical Education		3
EDP	408	Physiology of Exercise		2
EDP	—	Physical education electives	3	3
EDT	351	The Secondary School, Self, and Society[2,3]	3	
EDT	469	Reading in the Content Area	1	
—	—	General education requirement[1]		3
			16	16

		Senior Year		
EDP	402	Organization and Administration of Physical Education	2	
EDP	405	Tests and Measurements	2	
EDP	409-409L	Kinesiology and Laboratory	3	
EDP	417	Student Teaching[4]		12
EDT	419	Philosophy of Education	3	
—	—	Electives	6	
			16	12

[1]See General Education Requirements, Chapter V. Some general education requirements are specified in the program (e.g., HST 102); others are to be chosen from the listing of approved courses. Consult advisor.

[2]Students should leave one half day open for field experience.

[3]Field experiences are arranged by the University. Register for EDT 100 section.

[4]Students will have seminar on campus once a week.

PROGRAM—E3A: PHYSICAL EDUCATION (EDP) 7-12

Dept.	*No.*	*Course*	*Semester Hours*	
		Freshman Year	*1st Term*	*2nd Term*
EDD	109-110	Personal and Professional Development	2	2
EDP	180-199	Physical Education Activities	3	3
ENG	101-102	College Composition I and II	3	3
HST	102	History of Western Civilization Since 1789	3	
MTH	107	Fundamentals of Mathematics	3	
SPE	101	Fundamentals of Effective Speaking		3
—	—	General education requirements[1]	3	6
			17	17
		Sophomore Year		
EDD	305	Human Anatomy and Laboratory		3
EDP	180-199	Physical Education Activities	3	2
EDP	200	Motor Learning	2	
EDP	220	Adapted Physical Education[2]	3	
EDP	275	History of Physical Education and Sports		3
EDT	207	Child and Adolescent in Education	3	
EDT	208	Teaching and Learning[2,3]		3
—	—	Second teaching field	3	3
—	—	General education requirements[1]	3	3
			17	17
		Junior Year		
EDD	222	Audio-visual Materials and Equipment	1	
EDD	306	Human Physiology	3	
EDD	336	Standard First Aid and Personal Safety		2
EDD	337	Cardiopulmonary Resuscitation		1
EDP	180-199	Physical Education Activities		1
EDP	300	Methods of Teaching Physical Education		3
EDP	408	Physiology of Exercise		2
EDP	—	Physical education electives	2	2
EDT	351	The Secondary School, Self, and Society[2,3]	3	
EDT	469	Reading in the Content Area	1	
—	—	Second teaching field	6	6
			16	17

		Senior Year		
EDP	402	Organization and Administration of Physical Education	2	
EDP	405	Tests and Measurements	2	
EDP	409-409L	Kinesiology and Laboratory	3	
EDP	418	Student Teaching[4]		12
EDT	419	Philosophy of Education		3
—	—	Second teaching field	6	
—	—	General education requirement[1]	3	
			16	15

[1]See General Educaton Requirements, Chapter V. Some general education requirements are specified in the program (e.g., HST 102); others are to be chosen from the listing of approved courses. Consult advisor.

[2]Students should leave one half day open for field experience.

[3]Field experiences are arranged by the University. Register for EDT 100 section.

[4]Students will have seminar on campus once a week.

PROGRAM—E8: EXERCISE SCIENCE AND FITNESS MANAGEMENT (EES)

Dept.	*No.*	*Course*	*Semester Hours*	
		Freshman Year	*1st Term*	*2nd Term*
CHM	123-124	General Chemistry and Laboratory	4	4
EDH	117	Personal and Community Health	3	
EDH	360	Addiction Education	2	
EDP	110	Personal and Professional Development		2
EDP	185	Conditioning	1	
EDP	190	Gymnastics		2
EDP	191	Racquetball and Handball	1	
ENG	101-102	College Composition I and II	3	3
HST	102	History of Western Civilization Since 1789		3
—	—	General education requirements[1]	3	3
			17	17
		Sophomore Year		
ECO	203	Principles of Microeconomics		3
EDD	222	Audio-Visual Materials and Equipment	1	
EDD	305	Human Anatomy and Laboratory	3	
EDD	306	Human Physiology		3
EDD	336	Standard First Aid and Personal Safety	2	
EDD	337	Cardiopulmonary Resuscitation	1	
EDP	181	Tennis	1	
EDP	183	Team Sports	1	
EDP	198	Aquatics		2
EDP	200	Motor Learning	2	
EDP	275	History of Physical Education and Sports		3
MTH	207	Statistical Methods for Behavioral Sciences	3	
SPE	101	Fundamentals of Effective Speaking		3
—	—	General education requirements[1]	3	3
			17	17
		Junior Year		
ACC	301	Financial Accounting		3
DSC	103	Introduction to Computers and Information Processing	3	

EDH	361	Health Consumership		2
EDP	130	Aerobic Dance	1	
EDP	209	Teaching of Aerobic Dance	1	
EDP	220	Adaptive Physical Education[2]	3	
EDP	300	Methods of Teaching Physical Education	3	
EDP	408-408L	Physiology of Exercise and Laboratory		3
MGT	203	Business Law		3
PSY	101	Introductory Psychology	3	
PSY	251	Human Growth and Development		3
—	—	General education requirements[1]	3	3
			17	17
		Senior Year		
EDH	373	Stress Management		2
EDP	405	Tests and Measurements in Physical Education	2	
EDP	409-409L	Kinesiology and Laboratory	3	
EDP	441	Nutrition for the Athlete	2	
EDP	448	Safety and the Law in Physical Education and Sports	3	
EDP	490-491	Exercise Science Internships[3]	2	6
ENG	370	Report Writing	3	
			15	8

[1]See General Education Requirements, Chapter V. Some general education requirements are specified in the program (e.g., HST 102); others are to be chosen from the listing of approved courses. Consult advisor.

[2]Field experience required.

[3]Consult program director.

PROGRAM—E4: HEALTH EDUCATION (EDH) K-12

Dept.	*No.*	*Course*	*Semester Hours*	
		Freshman Year	*1st Term*	*2nd Term*
EDD	109	Personal and Professional Development	2	
EDH	117	Personal and Community Health	3	
EDP	130	Physical Education Activities	1	1
EDT	110	The Profession of Teaching		2
ENG	101-102	College Composition I and II	3	3
HST	101 or 102	History of Western Civilization		3
MTH	107	Fundamentals of Mathematics	3	
—	—	General education requirements[1]	3	6
			15	15
		Sophomore Year		
EDD	222	Audio-visual Materials and Equipment	1	
EDD	251	School Health Program	3	
EDD	305	Human Anatomy and Laboratory	3	
EDD	306	Human Physiology		3
EDH	—	Health electives		4
EDT	207	Child and Adolescent in Education	3	
EDT	208	Teaching and Learning[2, 5]		3
EDT	469	Reading in the Content Area	1	
HST	341	Historical Perspectives on Science, Technology, and Society	3	
SOC	204	Modern Social Problems		3
—	—	General education requirements[1]	3	3
			17	16

		Junior Year		
EDH	309	School Health Instruction		3
EDH	336	Standard First Aid and Personal Safety	2	
EDH	337	Cardiopulmonary Resuscitation		1
EDH	364	Sex Education		2
EDH	412	Community Health Agencies		2
EDH	—	Health electives	4	2
EDT	351	The Secondary School, Self, and Society[3]	3	
SPE	101	Fundamentals of Effective Speaking	3	
—	—	General education requirement[1]		3
—	—	Second teaching field or electives	5	3
			17	16
		Senior Year		
EDH	407	Current Issues in Health Education	2	
EDH	419	Student Teaching[4]		12
EDH	430	Principles of Health Education		2
EDT	419	Philosophy of Education	3	
—	—	Second teaching field or electives	9	
			14	14

[1]See General Education Requirements, Chapter V. Some general education requirements are specified in the program (e.g., EDD 305); others are to be chosen from the listing of approved courses. Consult advisor.

[2]Field experiences are arranged by the University. Register for EDT 100 section.

[3]Students should leave one half day open for field experience.

[4]Students will have seminar on campus once a week.

PROGRAM—E4A: HEALTH INFORMATION SPECIALIST (EHS)

Dept.	*No.*	*Course*	*Semester Hours*	
		Freshman Year	*1st Term*	*2nd Term*
EDD	109	Personal and Professional Development	2	
EDH	117	Personal and Community Health	3	
EDP	130	Physical Education Activities	1	1
EDT	110	The Profession of Teaching		2
ENG	101-102	College Composition I and II	3	3
HST	101 or 102	History of Western Civilization		3
MTH	107	Fundamentals of Mathematics	3	
—	—	General education requirements[1]	3	6
			15	15
		Sophomore Year		
EDD	251	School Health Program	3	
EDD	305	Human Anatomy and Laboratory	3	
EDD	306	Human Physiology		3
EDH	—	Health electives	2	4
HST	341	Historical Perspectives on Science, Technology, and Society	3	
SOC	204	Modern Social Problems		3
—	—	Professional education courses	3	3
—	—	General education requirements[1]	3	3
			17	16
		Junior Year		
EDH	309	School Health Instruction		3
EDH	336	Standard First Aid and Personal Safety	2	

EDH	337	Cardiopulmonary Resuscitation		1
EDH	364	Sex Education		2
EDH	412	Community Health Agencies		2
EDH	___	Health electives	4	
SPE	101	Fundamentals of Effective Speaking	3	
___	___	Professional education courses	3	6
___	___	General education requirement[1]		3
___	___	Second teaching field or electives	5	
			17	17
		Senior Year		
EDH	407	Current Issues in Health Education	2	
EDH	430	Principles of Health Education		2
EDH	___	Health electives	4	3
___	___	Professional education courses	3	6
___	___	General education requirement[1]	3	
___	___	Second teaching field or electives	4	6
			16	17

[1]See General Education Requirements, Chapter V. Some general education courses are specified in the program (e.g., EDD 305); others are to be chosen from the listing of approved courses. Consult advisor.

UD CERTIFICATION PROGRAM IN ATHLETIC TRAINING

The certificate in Athletic Training may be pursued by any student in the School of Education. It consists of 26 semester hours of classroom work with 100 clock hours of supervised internship: 50 hours on campus and 50 hours with a high school trainer.

Dept.	*No.*	*Course*	*Semester Hours*
EDD	305	Human Anatomy	3
EDD	306	Human Physiology	3
EDP	409	Kinesiology and Laboratory	3
EDP	408	Physiology of Exercise and Laboratory	3
EDD	336	Standard First Aid and Personal Safety[1]	2
EDH	117	Personal and Community Health	3
EDP	220	Adaptive Physical Education	3
EDD	337	Cardiopulmonary Resuscitation (CPR)[1]	1
EDD	230	Basic Athletic Training and Laboratory[1]	3
EDD	338	Athletic Training Internship (100 clock hrs.)	2
			26

[1]Prerequisites for internship hours.

STATE CERTIFICATION CURRICULUM FOR ATHLETIC TRAINING

Dept.	*No.*	*Course*	*Semester Hours*
EDD	305	Human Anatomy	3
EDD	306	Human Physiology	3
EDP	409	Kinesiology and Laboratory	3
EDP	408	Physiology of Exercise and Laboratory	3
EDD	336	First Aid and Personal Safety	2
EDH	117	Personal and Community Health	3
EDP	220	Adaptive Physical Education	3

EDD	337	Cardiopulmonary Resuscitation	1
EDD	230	Basic Athletic Training	3
EDD	330	Advanced Athletic Training	3
EDD	338	Internship Hours (800 clock hrs.)	11
—	—	Elective	3
			41

CERTIFICATION PROGRAM IN INTERSCHOLASTIC COACHING

The certificate in Interscholastic Coaching may be pursued by any student in the School of Education.

Dept.	*No.*	*Course*	*Semester Hours*
EDD	230	Basic Athletic Training and Laboratory	3
EDD	336	Standard First Aid and Personal Safety	2
EDD	337	Cardiopulmonary Resuscitation (CPR)	1
EDP	403	Principles, Ethics, and Practices of Coaching	1-3
EDP	404	Coaching Internship	3
EDP	446	Scientific Principles of Athletic Conditioning (EDP 546—Graduate 4 qtr. hrs.)	3
EDP	447	Administration of Interscholastic and Intramural Athletics (EDP 547—Graduate 3 qtr. hrs.)	2
EDP	—	Coaching courses (Minimum of 2 Coaching courses)	2-4
EDP	—	At least 3 sem. hrs. from recommended electives	3
			19-24

FACULTY

Doris A. Drees, *Chairperson*
Professors: Drees, LaVanche
Associate Professors: Laubach, Leonard, Schleppi, Siciliano
Assistant Professors: Morefield, Roberts
Part-time instructors: Donoher, Jayson, Kelly, Marshall
Field Experience Coordinators: Ritchie, Hemmelgarn

COURSES OF INSTRUCTION

EDP 101. SPORT IN AMERICA: Development of appreciation and understanding of sport in society. Study of sport and related areas in the American and selected European cultures. *2 sem. hrs.*

EDD 109. PERSONAL AND PROFESSIONAL DEVELOPMENT OF THE TEACHER: A course to help the student define professional goals and assess personal strengths and weaknesses in the light of competencies deemed essential for a physical and/or health education teacher. *2 sem. hrs.*

EDD 110. PERSONAL AND PROFESSIONAL DEVELOPMENT OF THE TEACHER: Practicum experiences on campus and in local area schools to enable the student to explore interests and test commitment to the teaching profession. *2 sem. hrs.*

EDH 117. PERSONAL AND COMMUNITY HEALTH: Survey of health science and principles of preventive medicine to serve as introduction to other courses in personal or community health and health education. *2-3 sem. hrs.*

EDP 130. PHYSICAL EDUCATION ACTIVITIES: Skills and understanding basic to an appreciation of selected activities. Open to all University students. Consult the composite for current offerings. *1-2 sem. hrs.*

EDP 180-199. PHYSICAL EDUCATION ACTIVITIES: Fundamentals of physical activities for physical education majors. Development of skills and knowledge needed to teach team and individual sports. Proficiency must be shown in at least eleven (11) of the approximately twenty (20) activities offered. Six semester hours are required for Physical Education majors. Prerequisite to EDP 300.

EDP 200. MOTOR LEARNING: Investigation of fundamental principles of human movement. Physical and psychological variables essential to motor learning are considered. Prerequisite for EDP 300. *2 sem. hrs.*

EDP 213. PRINCIPLES AND HISTORY OF PHYSICAL EDUCATION: A study of the historical development of physical education, as well as its aims and the scope of its psychological, sociological, and biological aspects in relation to its role in the general education process. *2 sem. hrs.*

EDP 220. ADAPTIVE PHYSICAL EDUCATION: A course to prepare prospective teachers to adapt a physical education program so all children and youth can successfully participate in activity programs. Study of the atypical child in order to organize and administer a program which will meet individual needs. *3 sem. hrs.*

EDD 222. AUDIO-VISUAL MATERIALS AND EQUIPMENT: Practical application of skills in the preparation, selection, storage, and care of audio-visual materials and equipment appropriate to health education and to physical education. *1 sem. hr.*

EDP 223. BASIC MOVEMENT EDUCATION: The study of movement fundamental to all the traditional content areas of games and sports, dance, and gymnastics. Prerequisite for EDP 324. *3 sem. hrs.*

EDD 230. BASIC ATHLETIC TRAINING: Application of principles and methods involved in prevention, care, and treatment of athletic injuries. *3 sem. hrs.*

EDP 245. MODERN DANCE: Basic and intermediate techniques in Modern Dance. The study of dance as an art form. First term, every other year. Elective. *2 sem. hrs.*

EDD 251. THE SCHOOL HEALTH PROGRAM: The organization and administration of a school health program with emphasis on principles of health education, health services, and healthful school living. *3 sem. hrs.*

*EDP 275. HISTORY OF PHYSICAL EDUCATION AND SPORT: A study of the historical development of physical education and sport as it relates to significant events in the history of Western civilization. *3 sem. hrs.*

EDP 300. METHODS OF TEACHING PHYSICAL EDUCATION: Study of the methods and skills essential for effective teaching in physical education. *3 sem. hrs.*

*EDD 305. HUMAN ANATOMY AND LABORATORY: Study of the human body with emphasis on the interdependent relationships of structure and function. Prerequisite to EDP 408-409. *3 sem. hrs.*

*EDD 306. HUMAN PHYSIOLOGY: Study of the functions of body systems. Cell physiology, structural contributions or limitations, concepts of biochemistry, control of functions, physiological limits of function, and examples of pathologic developments. *3 sem. hrs.*

EDH 309. SCHOOL HEALTH INSTRUCTION: A study of the instructional phase of the school health program with emphasis on the methods of teaching health in the elementary and secondary schools. *3 sem. hrs.*

EDP 310. COACHING BASKETBALL: The theory, skills, strategies, and methods of coaching basketball. First term, each year. Elective. *2 sem. hrs.*

EDP 312. COACHING FOOTBALL: The theory, skills, strategies, and methods of coaching football. Second term, each year. Elective. *2 sem. hrs.*

EDP 314. COACHING BASEBALL: The theory, skills, strategies, and methods of coaching baseball. Second term, each year. Elective. *1 sem. hr.*

EDP 316. COACHING SOCCER: The theory, skills, strategies, and methods of coaching soccer. First term, each year. Elective. *1 sem. hr.*

EDP 317. COACHING TRACK AND FIELD: The theory, skills, strategies, and methods of coaching track and field. Elective. *1 sem. hr.*

EDP 322. COACHING VOLLEYBALL: The theory, skills, strategies, and methods of coaching volleyball. Elective. *1 sem. hr.*

EDP 324. ELEMENTARY PHYSICAL EDUCATION: Basic theory, techniques and methods for conducting a program for elementary students. Prerequisite: EDP 223. *3 sem. hrs.*

EDD 330. ADVANCED ATHLETIC TRAINING: Advanced techniques of evaluation, treatment, and rehabilitation of athletic injuries; basic pharmacology and therapeutic modalities. *3 sem. hrs.*

EDD 336. STANDARD FIRST AID AND PERSONAL SAFETY: Study of basic principles involving personal safety and accident prevention. Application of first aid knowledge and skills in emergencies. National Red Cross Instructor's certificate for Standard First Aid and Personal Safety may be obtained. *2 sem. hrs.*

EDD 337. CARDIOPULMONARY RESUSCITATION (CPR): The American National Red Cross course designed to certify the student both in basic CPR techniques and in CPR instruction. *1 sem. hr.*

EDD 338. ATHLETIC TRAINING INTERNSHIP: Practical experience with the men's and women's intercollegiate athletic teams. Student is also assigned to a high school with a certified athletic trainer. Students will spend 50 clock hours in each internship experience. Prerequisites: EDD 230, 336, 337. *2 sem. hrs.*

EDP 341. INTRODUCTION TO RECREATIONAL SERVICES: Fundamentals of the nature, scope, and significance of organized recreation services. *2 sem. hrs.*

EDP 342. RECREATIONAL SPORTS PROGRAMMING: An overview of the current programmatic elements and techniques in recreational sports. *2 sem. hrs.*

EDP 344. OUTDOOR EDUCATION—SCHOOL CAMPING: An action seminar to familiarize teachers and leaders of outdoor programs with the curriculum, teaching techniques, and skills of a viable outdoor education program. *2 sem. hrs.*

EDH 360. ADDICTION EDUCATION: Study of the causes of human compulsion which lead to addictive behavior, survey of addictive substances, individual research into preventive and treatment programs. *2 sem. hrs.*

EDH 361. HEALTH CONSUMERSHIP: Sorting fad from fact in products and services from the present market (fad diets, nutrition nonsense, quackery, advertising tricks, beauty gimmicks); a survey of medical hoaxes; information on protection available to all consumers. Offered on demand. Elective. *2 sem. hrs.*

EDH 362. ENVIRONMENTAL HEALTH AND ECOLOGY: A detailed study of present environmental conditions; emphasis on improvement through individual effort and community action. Offered on demand. Elective. *2 sem. hrs.*

EDH 363. EMOTIONAL HEALTH: Study of emotions, behavior, personality, social relationships, and adjustments to change. The aim is toward increased self-understanding. Offered on demand. Elective. *2 sem. hrs.*

EDH 364. SEX EDUCATION: A detailed study of maturation, reproduction, pregnancy, birth and physiological development in humans. Emphasis on the psychological concept of sexuality in American society. *2 sem. hrs.*

EDH 365. EDUCATION FOR PARENTING: Selected issues surrounding family composition and roles, life cycles, marriage, family relationships, and parenting. *2 sem. hrs.*

EDH 367. COMMUNITY HEALTH PROGRAMS: Development of those skills necessary to perform as a community health educator in a variety of settings. *2 sem. hrs.*

EDH 373. STRESS MANAGEMENT FOR THE EDUCATOR: Examination of life's stressors, utilization of reduction techniques, and assisting others with the management of stress. Special attention to controlling stress in the school setting. *2 sem. hrs.*

EDH 374. HEALTHFUL LIFESTYLES: Study of behaviors, attitudes, and values contributing to positive health practices. Assessment of individual lifestyle to improve health status. *2 sem. hrs.*

EDP 400. PHYSICAL EDUCATION WORKSHOPS: Various workshops will be conducted depending upon the needs of the clientele. *1-3 sem. hrs.*

EDP 402. ORGANIZATION AND ADMINISTRATION OF PHYSICAL EDUCATION: Basic principles and techniques useful in solving organizational and administrative problems in physical education, intramurals, and athletics. *2 sem. hrs.*

EDP 403. PRINCIPLES, ETHICS AND PRACTICES OF COACHING: General principles governing the administrative and coaching functions of planning, organizing, and instructing athletic teams. Elective. *2 sem. hrs.*

EDP 404. COACHING INTERNSHIP: Practical coaching experience working in local schools with interscholastic teams. Elective. *1-3 sem. hrs.*

EDP 405. TESTS AND MEASUREMENTS IN PHYSICAL EDUCATION: A direct relationship of tests and measurements to the teaching situation. *2 sem. hrs.*

EDH 406. HEALTH EDUCATION WORKSHOPS: Various workshops will be conducted depending upon the needs of the clientele. *1-3 sem. hrs.*

EDH 407. CURRENT ISSUES IN HEALTH EDUCATION: A seminar on current health topics with emphasis on prevention, solution, and the related roles of the health educator. *2 sem. hrs.*

EDP 408. PHYSIOLOGY OF EXERCISE: Detailed study of the effects of exercise on human functions, thus providing a basis for the study of physical fitness, motor skills, and athletic training. Prerequisites: EDD 305-306. *2 sem. hrs.*

EDP 408L. PHYSIOLOGY OF EXERCISE LABORATORY: Course to accompany EDP 408. One two-hour laboratory per week in which the practical applications of exercise physiology well be stressed. Elective. *1 sem. hr.*

EDP 409. KINESIOLOGY: The investigation and analysis of human motion based on anatomical, physiological, and mechanical principles. Prerequisites: EDD 305-306. *2 sem. hrs.*

EDP 409L. KINESIOLOGY LABORATORY: Course to accompany EDP 409. One two-hour laboratory per week, stressing the practical application of kinesiology. *1 sem. hr.*

EDH 412. COMMUNITY HEALTH AGENCIES: The functions and services of various local health agencies. Course members select agencies to visit and/or invite to campus. *2 sem. hrs.*

EDH 413. HEALTH EDUCATION FOR THE ELEMENTARY EDUCATOR: A study of the total school health program. Elementary education majors only. *3 sem. hrs.*

EDP 414. PHYSICAL EDUCATION FOR THE ELEMENTARY EDUCATOR: A course designed to equip the elementary education major with basic theory, techniques, and methods for conducting a physical education program for elementary students. Elementary education majors only. *3 sem. hrs.*

EDH 415. HEALTH AGENCY INTERNSHIP: Student spends 60 hours working with an agency of his or her choice. Prerequisites: Junior standing and EDH 412. *2 sem. hrs.*

EDP 417. STUDENT TEACHING (SPECIAL TEACHING FIELD): Teaching under close supervision in the specialized subject area in both elementary and high school grades for a minimum of twelve weeks. A seminar is held once a week. Prerequisite: Formal admission a full semester in advance. *12 sem. hrs.*

EDP 418. STUDENT TEACHING (PRINCIPAL TEACHING FIELD): Teaching under close supervision in the specialized subject area in the high school grades for a minimum of twelve weeks. A seminar is held once a week. Prerequisite: Formal admission a full semester in advance. *12 sem. hrs.*

EDH 419. STUDENT TEACHING—HEALTH: Teaching under close supervision in the specialized subject area in elementary, junior high, and high school grades for a minimum of twelve weeks. A seminar is held once a week. Prerequisite: Formal admission a full semester in advance. *12 sem. hrs.*

EDP 420. SENIOR LIFE SAVING: The American Red Cross Senior Life Saving Course. Prerequisite: Advanced Swimming. First term, each year. Elective. *1 sem. hr.*

EDP 421. WATER SAFETY INSTRUCTION: The American Red Cross Safety Instructor's Course. Prerequisite: Senior Life Saving. Second term, each year. Elective. *2 sem. hrs.*

EDH 430: PRINCIPLES OF HEALTH EDUCATION: Establishment of the need for health education, historical development, survey of various philosophies, and discussion of specific professional standards, all aimed toward conceptualization of a personal philosophy by the health educator. Offered on demand. *2 sem. hrs.*

EDP 431. NUTRITION FOR THE ATHLETE: Investigation of current research in the nutritional assessment of the athlete. Topics include dietary needs, fluid replenishment, pre-game meals, and "fad" diets for the athlete. *2 sem. hrs.*

EDP 440. INTRODUCTION TO DRIVER AND TRAFFIC SAFETY EDUCATION: Specifics of classroom instruction in the various subject-matter fields. Selection of presentation and evaluation techniques based on recognized course objectives. First term, alternate years. Elective. *3 sem. hrs.*

EDP 441. ORGANIZATION AND ADMINISTRATION OF DRIVER AND TRAFFIC SAFETY EDUCATION: Organizational and administrative aspects of driver and traffic education as they relate to the total school and other specialized programs. Prerequisite: EDP 440. Second term, alternate years. Elective. *3 sem. hrs.*

EDP 446. SCIENTIFIC PRINCIPLES OF ATHLETIC CONDITIONING: Factors which affect human performance in athletic competition. Methods and theories of training, conditioning and reconditioning. *3 sem. hrs.*

EDP 447. ADMINISTRATION OF INTERSCHOLASTIC AND INTRAMURAL ATHLETICS: Structure of interscholastic and intramural athletics and their appendages: staffing, financing, facilities, scheduling, crowd control and sports medicine. *2 sem. hrs.*

EDD 450. SELECTED STUDIES IN PHYSICAL EDUCATION AND HEALTH: Investigating, analyzing, and reporting on a problem in physical education, recreation, or health. Permission by chairperson. Elective. *1-3 sem. hrs.*

EDP 490. EXERCISE SCIENCE INTERNSHIP—ON CAMPUS: Work experience carried out under the auspices and supervision of the University of Dayton Wellness Program staff. Application and permission of director of Exercise Science and Fitness Management Program required. *2 sem. hrs.*

EDP 491. EXERCISE SCIENCE INTERNSHIP—OFF CAMPUS: Work experience carried out under the auspices of an industrial, commercial, educational, or government or health agency-related wellness program. Application and permission of director of Exercise Science and Fitness Management Program required. *6 sem. hrs.*

*General education course. See Chapter V.

TEACHER EDUCATION (EDT)

The Teacher Education Department's mission is the development of competent and humane teachers. It provides students and faculty the opportunity to serve and learn in elementary and secondary schools. It dedicates itself to the discovery and transmission of the knowledge, skills, attitudes, and values that enable teachers to be professional leaders.

To assure the competency of its students, the Department has established a selection and retention policy which requires students to demonstrate before student teaching at least a 2.5 grade point average in professional education courses and the subject areas for which they are being certified; ability to pass the Pre-Professional Skills Test; competency in the use of audio-visual equipment and materials; and competency in achieving selected objectives in 300 hours of clinical and field-based experiences. At the completion of their programs, all students are required to take the National Teacher Examinations.

ELEMENTARY EDUCATION (EDE)

The Department of Teacher Education administers the program in elementary education (E-1), which leads to the Bachelor of Science in Education, and programs in tangential areas (E1a-E1e).

A student in the Elementary Education Program is required to have an area of specialization of 12 or more semester hours; these hours are additional to those required for basic certification. The area of specialization can be in a subject taught in the elementary school curriculum, an area of special interest, and/or an area in which certification or certificate validation is available.

Certification programs are available in the following:

Educable Mentally Retarded (Developmentally Handicapped)
Kindergarten-Primary
Learning Disabilities and Behavior Disorders
Moderately, Severely, and Profoundly Retarded

Validation programs are available in the following for grades indicated:

Art (grades 1-8)
Data Processing (grades 1-8)
Foreign Language (grades 1-8)
Music (grades 1-8)
Physical Education (grades 1-8)
Reading (grades K-12)

In order to do student teaching and be recommended for certification the elementary education major must earn a quality point average of at least 2.5 in professional education courses and in any additional certification or validation area.

PROGRAM—E1: ELEMENTARY EDUCATION (EDE)

(Leading to Ohio Provisional Elementary Certificate: grades 1-8)

Dept.	*No.*	*Course*	*Semester Hours*	
			1st Term	*2nd Term*
		Freshman Year		
ART	101	Fundamentals and Materials of Art[1]		2
BIO	114-114L	Introduction to Biology and Laboratory	4	
EDT	109	Personal Aspects of Teaching	2	
EDT	110	The Profession of Teaching[2]		2
ENG	101-102	College Composition I and II[3]	3	3
HST	102	History of Western Civilization Since 1789	3	
HST	—	Elective in non-Western culture[4]		3
PHL	103	Introduction to Philosophy		3
PHY	105	Physical Science		3
—	—	General education requirement[5]	3	
			15	16
		Sophomore Year		
EDT	200	History of Education Since 1789	3	
EDT	207	Child and Adolescent in Education	3	
EDT	208	Teaching and Learning[2]		3
EDT	296	Teaching in the Elementary School		3
MTH	204	Mathematical Concepts I		3
MUS	104	Music Literature for Elementary Classroom		2
SPE	101	Fundamentals of Effective Speaking	3	
—	—	Physical or health education elective[6]	2	
—	—	American studies elective[7]		3
—	—	General education requirements[5]	6	3
			17	17
		Junior Year		
EDH	413	Health Education for the Elementary Educator[6]		3
EDT	320	Reading and Language Arts		3
EDT	321	Practicum—Elementary Methods[2]		3
EDT	325	Social Studies in Elementary School		3
EDT	360	Children's Literature	3	
EDT	390	Introduction to Exceptionalities	3	
EDT	403	Mathematics in Elementary School		3
EDT	460	Science in Elementary School		2
EDT	481	Art in Elementary School	2	
EDT	483	Music in Elementary School	2	
—	—	Social science elective[8]	3	
—	—	Area of specialization[9]	3	
			16	17
		Senior Year		
EDT	413	Student Teaching—Elementary[10]		12
EDT	419	Philosophy of Education	3	
—	—	Area of specialization[9]	6	3
—	—	Area of specialization or elective	2	
			11	15

[1]Most courses can be taken in terms other than listed. Consult advisor.

[2]Field experiences are arranged by the University. Register for EDT 100 section, except for EDT 321.

[3]If placed in ENG 114 or 198, take 200-, 300-, or 400-level ENG course to make total of 6 sem. hrs. ENG.

[4]Take HST 325, 330, 335, or 357.

[5]See General Education Requirements, Chapter V. Some general education requirements are specified in the program (e.g., BIO 114); others are to be chosen from the listing of approved courses. Consult advisor and teaching field checksheets.

[6]Combination of 5 sem. hrs. of EDH and EDP; either EDH 413 or EDP 414 is required.

[7]Take HST 251 or 252, or POL 201.

[8]Select from ANT, SOC, POL, ECO, AMS, PSY, HST.

[9]A specialization of 12 or more sem. hrs. above other course requirements in a certifiable area or an area of interest.

[10]Only 9 sem. hrs. required if student also enrolls in EDT 410, 411, 414, 415, 416, 471, or 495.

PROGRAM—E1a: SPECIAL EDUCATION—EMR (K-12)

The student must meet the following requirements in addition to satisfying the requirements for the Standard Elementary Teaching Certificate.

EDT	411	Student Teaching—EMR[1]	3-6
EDT	480	Psychology and Education of the Mentally Retarded	3
EDT	487	Career Development—Special Education[1]	2
EDT	492	Curriculum and Methods—MR[1]	6

[1]EDT 487, 492, and 411 can be taken concurrently in senior year, second term.

PROGRAM—E1b: SPECIAL EDUCATION—MSPR (K-12)

The student must meet the following requirements in addition to satisfying the requirements for the Standard Elementary Teaching Certificate.

EDT	415	Student Teaching—MSPR[1]	3-6
EDT	480	Psychology and Education of the Mentally Retarded	3
EDT	487	Career Development—Special Education[1]	2
EDT	488	Counseling Parents of Exceptional Children	3
EDT	489	Education of the Multi-Handicapped	2
EDT	492	Curriculum and Methods—MR[1]	6
EDT	496	Classroom Structure and Behavior Management	3

[1]EDT 487, 492, and 415 can be taken concurrently in senior year, second term.

PROGRAM—E1c: SPECIAL EDUCATION—LD/BD (K-12)

The student must meet the following requirements in addition to satisfying the requirements for the Standard Elementary Teaching Certificate.

EDT	488	Counseling Parents of Exceptional Children	3
EDT	493	Education of Students with LD/BD	3
EDT	494	Diagnostic Teaching in LD/BD	3
EDT	495	Student Teaching—LD/BD	3
EDT	496	Classroom Structure and Behavior Management	3

PROGRAM—E1d: EARLY CHILDHOOD EDUCATION

The student must meet the following requirements in addition to satisfying the requirements for the Standard Elementary Teaching Certificate.

A. Kindergarten-Primary, leading to Ohio Provisional Kindergarten-Primary Certificate: K-3

EDT	219	Kindergarten-Primary Instruction	3
EDT	410	Student Teaching—Kindergarten	3

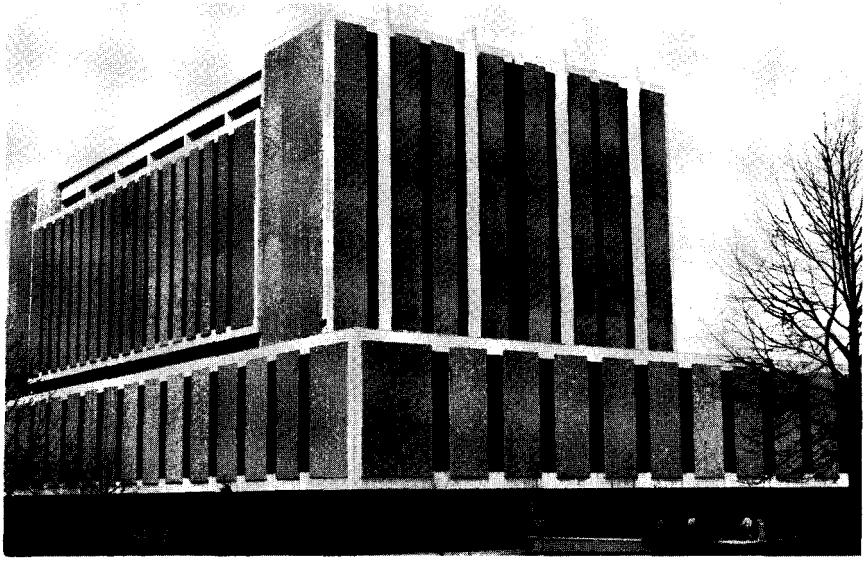
B. Pre-Kindergarten Education (At time of publication, Ohio was developing certification/validation standards for pre-kindergarten instruction; see advisor. The following courses are offered for those persons desiring it as an area of specialization.)

EDT	250	Introduction to Pre-Kindergarten	3
EDT	470	Pre-Kindergarten Instruction	3
EDT	471	Student Teaching—Pre-Kindergarten	3

PROGRAM—E1e: READING TEACHER (VALIDATION K-12)

The student must meet the following requirements in addition to satisfying the requirements for the Standard Elementary Teaching Certificate.

EDT	468	Diagnosis of Reading Difficulties	4
EDT	469	Reading in the Content Areas	3



SECONDARY EDUCATION (EDS)

The Department of Teacher Education administers the program in secondary education (E-2), which leads to the Bachelor of Science in Education, and programs in tangential areas (E2a-E2e).

A student in the Secondary Education Program is required to have either (1) two teaching fields, usually with a minimum of 33 semester hours in the principal teaching field and a minimum of 21 semester hours in the second teaching field; *or* (2) a single comprehensive field totaling 51 to 60 semester hours. In order to do student teaching and be recommended for certification, the student must earn a quality point average of at least 2.5 in the principal field, 2.5 in the second teaching field, and 2.5 in professional education courses.

Secondary education teaching fields (7-12) include the following:

Art
Biological Science
Bookkeeping-Basic Business
Chemistry
Earth Science
Economics
English
General Science
Health Education
History
Language:
Latin
French
German
Italian
Spanish
Mathematics
Physical Education
Physics
Political Science
Religious Studies
Sales-Communication
Social Psychology
Sociology
Speech
Stenography-Typing

Teaching fields for certification K-12 are also available:

Educable Mentally Retarded (Developmentally Handicapped)
Learning Disabilities and Behavior Disorders
Moderately, Severely, and Profoundly Retarded
Modern Languages

Comprehensive fields (7-12 unless specified otherwise) include the following:

Art (K-12)
Business Education
Communications: English concentration
Speech concentration
Music (K-12)
Science
Social Studies
Vocational Business and Office Education

Validation of a Standard Secondary Certificate is available for Reading Teacher (K-12) and Data Processing. Validation of a Standard Certificate in Visual Art or Home Economics or Music Education or Physical Education for the MSPR is available (to teach only that subject to MSPR).

Checksheets for each field are available in the Department of Teacher Education, C-205 and the School of Education, C-104.

PROGRAM—E2: SECONDARY EDUCATION (EDS)

Dept.	*No.*	*Course*	*Semester Hours*	
		Freshman Year	**1st Term**	**2nd Term**
EDT	109	Personal Aspects of Teaching	2	
EDT	110	The Profession of Teaching[1]		2
ENG	101-102	College Composition I and II	3	3
HST	102	History of Western Civilization Since 1789		3

MTH	107	Fundamentals of Mathematics	3	
PHL	103	Introduction to Philosophy	3	
—	—	Teaching field		6
—	—	General education requirements[2]	6	3
			17	17
		Sophomore Year		
EDT	200	History of Education Since 1789[3]		3
EDT	207	Child and Adolescent in Education	3	
EDT	208	Teaching and Learning[1]		3
SPE	101	Fundamentals of Effective Speaking	3	
—	—	Teaching field	6	9
—	—	Physical or health education electives	1	1
—	—	General education requirement[2]	3	
			16	16
		Junior Year		
EDT	318	Human Relations in Education	2	
EDT	351	Secondary School, Self and Society[1]	3	
EDT	469	Reading in the Content Areas[1,4]		2
—	—	Teaching field	12	12
—	—	General education requirement[2]		3
			17	17
		Senior Year		
EDT	419	Philosophy of Education		3
EDT	420	Student Teaching—Secondary[5]		12
—	—	Special methods in teaching field[1]	4	
—	—	Teaching field or electives	9	
—	—	General education requirement[2]	3	
			16	15

[1]Field experiences are arranged by the University. Register for EDT 100 section.
[2]See General Education Requirements, Chapter V. Some general education requirements are specified in the program (e.g., PHL 103); others are to be chosen from the listing of approved courses. Consult advisor and teaching field checksheets.
[3]Some teaching fields have alternate courses; see checksheets.
[4]Students with teaching fields in English and speech take 3 sem. hrs.
[5]Students will have seminar on campus once a week.

PROGRAM—E2a: SPECIAL EDUCATION—EMR (DH) (K-12)

The student must meet the following requirements in addition to satisfying the requirements for the Standard Secondary Teaching Certificate.

EDT 320	Reading and Language Arts in Elementary School	3
EDT 321	Practicum: Elementary Methods	3
EDT 390	Introduction to Exceptionalities	3
EDT 411	Student Teaching—EMR (DH)	3-6
EDT 480	Psychology and Education of the Mentally Retarded	3
EDT 487	Career Development—Special Education	2
EDT 492	Curriculum and Methods—MR	6

PROGRAM—E2b: SPECIAL EDUCATION—MSPR (K-12)

The student must meet the following requirements in addition to satisfying the requirements for the Standard Secondary Teaching Certificate.

EDT 390	Introduction to Exceptionalities	3
EDT 415	Student Teaching—MSPR	3-6
EDT 480	Psychology and Education of the Mentally Retarded	3
EDT 488	Counseling Parents of Exceptional Children	3
EDT 489	Education of the Multi-Handicapped	2
EDT 492	Curriculum and Methods—MR	6
EDT 496	Classroom Structure and Behavior Management	3

PROGRAM—E2c: SPECIAL EDUCATION—LD/BD (K-12)

The student must meet the following requirements in addition to satisfying the requirements for the Standard Secondary Teaching Certificate.

EDT 320	Reading and Language Arts in Elementary School	3
EDT 321	Practicum: Elementary Methods	3
EDT 390	Introduction to Exceptionalities	3
EDT 488	Counseling Parents of Exceptional Children	3
EDT 493	Education of Students with LD/BD	3
EDT 494	Diagnostic Teaching in Learning Disabilities (with field experience)	3
EDT 495	Student Teaching—LD/BD	3
EDT 496	Classroom Structure and Behavior Management	3

PROGRAM—E2d: SPECIAL EDUCATION—MSPR (VALIDATION K-12)

The student must meet the following requirements in addition to satisfying the requirements for a Standard Teaching Certificate in Visual Art Education or Home Economics Education or Music Education or Physical Education.

EDT 480	Psychology and Education of the Mentally Retarded	3
EDT 492	Curriculum and Methods—MR	6
EDT 496	Classroom Structure and Behavior Management	3

This validation permits the holder of a certificate in one of the fields specified to teach *only that field* to the MSPR.

PROGRAM-E2e: READING TEACHER (VALIDATION K-12)

The student must meet the following requirements in addition to satisfying the requirements for the Standard Secondary Teaching Certificate.

EDT 320	Reading and Language Arts in Elementary School	3
EDT 321	Practicum—Elementary Methods	3
EDT 360	Children's Literature	3
EDT 468	Diagnosis of Reading Difficulties (with field experience)	4
EDT 469	Reading in the Content Areas	3

MUSIC EDUCATION

The Department of Teacher Education cooperates with the Music Division of the Department of Performing and Visual Arts to offer certification K-12, through the E-11A Program. See MUS, Chapter VI.

ART EDUCATION (EAR)

The Department of Teacher Education cooperates with the Fine Arts Division of the Department of Performing and Visual Arts to offer Program E6, which leads to the Bachelor of Science in Art Education.

For specific course descriptions and further information, see also ART, Chapter VI, and consult with the director of the Fine Arts Division.

PROGRAM—E6: BACHELOR OF SCIENCE IN ART EDUCATION (EAR)

Dept.	*No.*	*Course*	*Semester Hours*	
		Freshman Year	*1st Term*	*2nd Term*
ART	103	Introductory Drawing		2
ART	111	Principles of Design	2	
ART	183-184	Visual Fundamentals I and II	3	3
EDT	109	Personal Aspects of Teaching	2	
EDT	110	The Profession of Teaching[1]		2
ENG	101-102	College Composition I and II	3	3
HST	102	History of Western Civilization Since 1789	3	
PHL	103	Introduction to Philosophy		3
SPE	101	Fundamentals of Effective Speaking	3	
—	—	General education requirement[2]		3
			16	16
		Sophomore Year		
ART	104	Introductory Drawing	3	
ART	112	Principles of Design		3
ART	—	Art history	3	
PHO	101	Basic Photography		3
EDT	207	Child and Adolescent in Education	3	
EDT	208	Teaching and Learning[1]		3
EDT	318	Human Relations in Education		2
MTH	107	Fundamentals of Mathematics	3	
—	—	Physical or health education elective	1	
—	—	General education requirements[2]	3	6
			16	17
		Junior Year		
ART	226	Introductory Painting	3	
ART	231	Sculpture		3
ART	240	Introductory Ceramics, Hand Building	3	
ART	253 or 254	Printmaking I *or* II	3	
ART	262	Introductory Copper Enameling *or*		
ART	364	Jewelry Construction *or*		
ART	366	Jewelry Casting		3
ART	292	Lettering and Calligraphy		3
ART	341	Weaving		2

ART	—	Art history	3	
EDT	351	The Secondary School, Self, and Society[1]	3	
—	—	Teaching field elective[3]		3
—	—	Physical or health education elective	1	
—	—	General education requirement[2]	—	3
			16	17
		Senior Year		
ART	483	Creative Art Teaching	4	
EDT	419	Philosophy of Education	3	
EDT	421	Student Teaching—Art K-12[4]		12
EDT	469	Reading in the Content Areas[1]	2	
—	—	Teaching field electives[3]	7	—
			16	12

[1]Field experiences are arranged by the University. Register for EDT 100 section.

[2]See General Education Requirements, Chapter V. Some general education courses are specified in the program (e.g., HST 102, PHL 103); others are to be chosen from the listing of approved courses. Consult advisor and teaching field checksheets.

[3]Choose from ART history, ART studio, PHO.

[4]All required ART courses must be taken before student teaching. Students will have seminar on campus once a week.

CERTIFICATION FOR STUDENTS IN ARTS AND SCIENCES AND BUSINESS ADMINISTRATION

PROGRAM—E11A: B.A. or B.S. WITH TEACHER CERTIFICATION

PROGRAM—E11B: B.S. in BUSINESS ADMINISTRATION WITH TEACHER CERTIFICATION

Students in the College of Arts and Sciences or in the School of Business Administration may enroll in the Department of Teacher Education's Secondary Education Program without transferring to the School of Education. For requirements in professional education courses and in teaching fields consult the assistant chairperson, undergraduate, of the Department of Teacher Education.

Enrollment in these programs (E11A for students matriculating in the College of Arts and Sciences; E11B for students matriculating in the School of Business Administration) is subject to the same admission requirements, counseling, maintenance of a unified system of records, screening, and other professional provisions standard for regular students of the School of Education working toward the B.S. in Education. These include passing the Preprofessional Skills Test; maintaining a 2.5 average in the principal teaching field, 2.5 in the second teaching field, and 2.5 in professional education courses; completing field-clinical and student teaching hours (300 each); taking the comprehensive National Teacher Examinations (NTE); and being in good academic standing at the University.

In order to finish in four years, a student in the College of Arts and Sciences or the School of Business Administration will need to process an application for admission to the Secondary Education Program no later than the third semester and begin the professional education sequence. Failure to enroll on time may necessitate going beyond the normal four years in order to qualify for teacher certification and graduation. The requirements for the College of Arts and Sciences (Chapter VI) or the School of Business Administration (Chapter VII) and those of the School of Education must be completed before any degree is granted.

When the proper course requirements have been completed, the student may register for student teaching, provided that the application for student teaching is duly processed at the beginning of the semester directly prior to the one during which student teaching will take place and that the student has passed the normal screening procedure.

When all the requirements for teacher certification are completed, the student should make application for the standard State Teaching Certificate through the official recommending officer of the School of Education (C-104).

FACULTY

Thomas J. Lasley, II, *Chairperson*
Helen B. Frye, *Assistant Chairperson, Undergraduate*
James E. Gay, *Assistant Chairperson, Graduate*
Professors: Anderson, Britt, Frye, Fuchs, Gay, Geiger, Joseph, Petit
Associate Professors: Lasley, Taylor, Torge, Watras
Assistant Professors: Carlsen, Egnor-Brown, Lutz, Shugarman, Weaver
Part-time Instructors: Daily, Greer, Hart, Klosterman, Kriegbaum, Mangan, O'Neil
Field Experience Coordinators: Ritchie, Hemmelgarn

COURSES OF INSTRUCTION

EDT 100. FIELD-BASED EXPERIENCES: Planned, supervised, and evaluated activities in urban, suburban, or rural schools. Students register for this course in conjunction with appropriate courses in the professional education sequence. Objectives are identified in the *Field-Based and Clinical Experiences Handbook.* *No credit*

EDT 109. PERSONAL ASPECTS OF TEACHING: Identification of students' personal values, goals, motives, and strengths in light of the qualities of effective teaching; description of program requirements, certification standards, and resources available for development of knowledge, skills, attitudes, and values of the successful teacher. Clinical experience (20 hrs.). *2 sem. hrs.*

EDT 110. THE PROFESSION OF TEACHING: Examination of common characteristics, rules, regulations, and policies of school systems; employment potential, conditions, salaries, and career options in teaching in relation to students' career goals. Clinical and field experience (20 and 24 hrs.). *2 sem. hrs.*

*EDT 200. HISTORY OF EDUCATION SINCE 1789: Study of the relationship of schools and social changes in Europe and America from the French Revolution to the present. Biographies of educational figures. Prerequisite: HST 102. *3 sem. hrs.*

EDT 207. CHILD AND ADOLESCENT IN EDUCATION: Study of the empirical principles of intellectual, moral, physical, personality, and social development as related to performance in the classroom. Interpretations for appropriate generic teaching behaviors and developmental causes of behavior problems. Clinical experience (20 hrs.). Prerequisite: EDT 110 or permission. *3 sem. hrs.*

EDT 208. TEACHING AND LEARNING: Study of the empirical principles of learning such as reinforcement, discovery, motivation, and transfer. Interpretations for generic teaching behaviors especially in diagnosis, prescription, and evaluation. Clinical and field experience (10 and 20 hrs.). Prerequisite: EDT 207. *3 sem. hrs.*

EDT 219. KINDERGARTEN-PRIMARY INSTRUCTION: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching children on the kindergarten-primary levels. Field experience (20 hrs.). Prerequisite: EDT 296. *3 sem. hrs.*

EDT 250. INTRODUCTION TO PRE-KINDERGARTEN: Study of the development of children from birth through age eight, including psychology of learning; cultural, economic, governmental, and social factors that affect family and child. First term, even-numbered years. *3 sem. hrs.*

EDT 296. TEACHING IN THE ELEMENTARY SCHOOL: Study of the role of the teacher in the classroom including classroom management and human relations, lesson planning, assessment, instructional methods and media, and evaluation of teaching. Clinical experience (30 hrs.). Prerequisite: EDT 207. *3 sem. hrs.*

EDT 318. HUMAN RELATIONS IN EDUCATION: Study and development of the human relations skills that promote learning and democratic classroom interaction and management regardless of race, political affiliation, religion, age, sex, socioeconomic status, or exceptionality. Clinical experience (15 hrs.). Prerequisite: EDT 208. *2 sem. hrs.*

EDT 319. INSTRUCTIONAL MATERIALS—K-4: Study of psychological principles that should guide instructional material selection; examination, development, and evaluation of materials for kindergarten-primary teaching. *3 sem. hrs.*

EDT 320. READING AND LANGUAGE ARTS IN ELEMENTARY SCHOOL: Foundations of teaching reading. Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching reading and language arts to students with

varied needs and abilities. Clinical experience (14 hrs.). Prerequisites: EDT 208, 296. Corequisite: EDT 321. *3 sem. hrs.*

EDT 321. PRACTICUM—ELEMENTARY METHODS: Planned, supervised, and evaluated experience in elementary schools working with students of varied needs and abilities (including handicapped). Field experience (96 hrs.). Corequisite: EDT 320. *3 sem. hrs.*

EDT 325. SOCIAL STUDIES IN ELEMENTARY SCHOOL: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching social studies to students with varied needs and abilities. Clinical experience (30 hrs.). Prerequisites: EDT 208, 296. *3 sem. hrs.*

EDT 327. BUSINESS EDUCATION IN SECONDARY SCHOOL: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching business to students with varied needs and abilities. Field and clinical experience (36 and 18 hrs.). First term. Prerequisite: EDT 351. *4 sem. hrs.*

EDT 331. TEACHING RELIGION: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching religion to students with varied needs and abilities. *3 sem. hrs.*

EDT 351. SECONDARY SCHOOL, SELF AND SOCIETY: Study of the relationship between institutional reform, personality development, and social change; comparison of rural, urban, and suburban schools and social settings; study of the laws and policies affecting the education of handicapped students. Field and clinical experience (34 and 6 hrs.). Prerequisite: EDT 208. *3 sem. hrs.*

EDT 360. CHILDREN'S LITERATURE: Study of children's books to develop critical standards for judgment. Guidance in selection of books for specific needs, interests, and reading abilities in eight genres; techniques for use in the classroom. Preschool through junior high school levels. Clinical experience (6 hrs.). Prerequisite: EDT 296. *3 sem. hrs.*

EDT 390. INTRODUCTION TO EXCEPTIONALITIES: Study of the definition, causes, and characteristics of exceptionalities in students; the laws, policies, available resources, classroom organization, and curricular modifications that facilitate the education of handicapped students. Clinical experience (10 hrs.). Prerequisite: EDT 207. *3 sem. hrs.*

EDT 403. MATHEMATICS IN ELEMENTARY SCHOOL: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching mathematics to students with varied needs and abilities. Prerequisites: EDT 208, 296. Clinical experience (20 hrs.). *3 sem. hrs.*

EDT 405. ENGLISH AND SPEECH IN SECONDARY SCHOOL: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching English and speech to students with varied needs and abilities. Field and clinical experience (36 and 18 hrs.). First term. Prerequisite: EDT 351. *4 sem. hrs.*

EDT 406. SOCIAL STUDIES IN SECONDARY SCHOOL: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching history, sociology, political science, psychology, and other social studies to students with varied needs and abilities. Field and clinical experience (36 and 18 hrs.). First term. Prerequisite: EDT 351. *4 sem. hrs.*

EDT 407. SCIENCE IN SECONDARY SCHOOL: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching the biological and physical sciences to students with varied needs and abilities. Field and clinical experience (36 and 18 hrs.). First term. Prerequisite: EDT 351. *4 sem. hrs.*

EDT 408. FOREIGN LANGUAGE TEACHING: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching Latin and modern foreign languages in elementary and secondary schools to students with varied needs and abilities. Field and clinical experience (36 and 18 hrs.). First term. Prerequisite: EDT 351. *4 sem. hrs.*

EDT 409. MATHEMATICS IN SECONDARY SCHOOL: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching all levels of mathematics to students with varied needs and abilities. Field and clinical experience (36 and 18 hrs.). First term. Prerequisite: EDT 351. *4 sem. hrs.*

EDT 410. STUDENT TEACHING—KINDERGARTEN: Full-time supervised and evaluated teaching in a kindergarten. Student is to demonstrate the knowledge, skills, attitudes, and values required of a beginning kindergarten teacher. Weekly seminar. Prerequisites: EDT 219, 413. *3 sem. hrs.*

EDT 411. STUDENT TEACHING—EMR: Full-time supervised and evaluated teaching in an EMR classroom. Student is to demonstrate the knowledge, skills, attitudes, and values required of a beginning EMR teacher. Weekly seminar. Prerequisites: EDT 413 or 420 or EDP 418; EDT 492. *3-6 sem. hrs.*

EDT 413. STUDENT TEACHING—ELEMENTARY: Full-time supervised and evaluated teaching for a full semester in an elementary school. Student is to demonstrate the knowledge, skills, attitudes, and values required of a beginning elementary school teacher. Weekly seminar. Prerequisites: formal admission to student teaching a full semester in advance, EDT 320, 321, 325, 390, 403. *9-12 sem. hrs.*

EDT 414. STUDENT TEACHING—OUTDOOR EDUCATION: Full-time supervised and evaluated teaching in an outdoor education facility. Student is to demonstrate the knowledge, skills, attitudes, and values required of a beginning outdoor education teacher. Prerequisite: EDT 413 or 420. *3 sem. hrs.*

EDT 415. STUDENT TEACHING—MSPR: Full-time supervised and evaluated teaching in an MSPR classroom. Student is to demonstrate the knowledge, skills, attitudes, and values required of a beginning MSPR teacher. Weekly seminar. Prerequisites: EDT 413 or 420 or EDP 418; EDT 492, 496. *3-6 sem. hrs.*

EDT 416. STUDENT TEACHING—ELEMENTARY MUSIC: Full-time supervised and evaluated teaching in an elementary music classroom. Student is to demonstrate the knowledge, skills, attitudes, and values required of a beginning elementary music teacher. Prerequisites: EDT 413, 483. *3 sem. hrs.*

*EDT 419. PHILOSOPHY OF EDUCATION: Study of normative principles including the Marianist perspective; analysis of philosophical concepts related to education. Interpretations for the development of a critical and humane theory of teaching. Prerequisite: EDT 320 or 351. *3 sem. hrs.*

EDT 420. STUDENT TEACHING—SECONDARY: Full-time supervised and evaluated teaching in content area junior or senior high school classroom. Student is to demonstrate the knowledge, skills, attitudes, and values required of a beginning secondary teacher after completion of a 65-hr. on-site clinical experience. Weekly seminar. Prerequisites: Formal admission to student teaching a full semester in advance, methods course. *9-12 sem. hrs.*

EDT 421. STUDENT TEACHING—ART K-12: Full-time supervised and evaluated teaching in art classes in elementary and secondary grades. Student is to demonstrate the knowledge, skills, attitudes, and values required of a beginning art teacher after completion of a 65-hr. on-site clinical experience. Weekly seminars. Prerequisites: Formal admission to student teaching a full semester in advance, methods course. *9-12 sem. hrs.*

EDT 422. STUDENT TEACHING—MUSIC K-12: Full-time supervised and evaluated teaching in music classes in elementary and secondary grades. Student is to demonstrate the knowledge, skills, attitudes, and values required of a beginning music teacher after completion of a 65-hr. on-site clinical experience. Weekly seminar. Prerequisites: Formal admission to student teaching a full semester in advance; methods courses. *9-12 sem. hrs.*

EDT 423. CATHOLIC PHILOSOPHY OF EDUCATION: Study of normative principles and analyses of concepts related to Catholic education. Interpretations for the development of a theory of teaching compatible with Catholicism. *3 sem. hrs.*

EDT 424. STUDENT TEACHING—LANGUAGES K-12: Full-time supervised and evaluated teaching of foreign languages in both elementary and secondary classes. Student is to demonstrate the knowledge, skills, attitudes, and values required of a beginning foreign language teacher after completion of a 65-hr. on-site clinical experience. Weekly seminar. Prerequisites: Formal admission to student teaching a full semester in advance, EDT 408. *9-12 sem. hrs.*

EDT 431. AUDIO-VISUAL INSTRUCTION: Study of supporting learning theory and techniques of integrating audio-visual equipment and materials into curriculum and teaching methods; demonstration lessons for selected content areas. *2 sem. hrs.*

EDT 437. VBOE CONTENT AND METHODOLOGY: A qualifying course for VBOE certification. Study of the objectives, curriculum, student-teacher relationship, community needs, equipment, facilities, public relations, youth groups, advisory committees, vocational reports, and PRIDE. Prerequisites: EDT 327, comprehensive business education. *4 sem. hrs.*

EDT 438. VBOE SUPERVISED FIELD EXPERIENCE: Application of classroom theory concerning business and office skills in actual practice in the community. Up to 6 months (1,000 hrs.) practicum experience can be counted toward the year of business and office occupation employment required for VBOE certification. *3 sem. hrs.*

EDT 440. SPECIAL TOPICS IN TEACHING: Study of specialized areas in teaching not normally investigated fully in professional education sequence. Topics are announced. *1-3 sem. hrs.*

EDT 451. COMPUTERS IN EDUCATION: Introduction to the uses of computers in education including an examination of data management and applications in various content areas and at various levels. *3 sem. hrs.*

EDT 452. TECHNIQUES IN HOSPITAL INSTRUCTION: Planning, instructional methods (i.e., formal classes, clinical work, on-the-job training), materials, and evaluation techniques for providing instruction to adult learners in hospitals and other allied health facilities. *2 sem. hrs.*

EDT 454. HISTORY OF EDUCATION IN UNITED STATES: Study of the relationship of schools and social changes in the United States from colonial times to the present. Interpretations of changes in educational policies and practices for the development of a critical theory of education. Second term. *3 sem. hrs.*

EDT 456. INDEPENDENT STUDY: Study of selected topics in teaching. Student develops an individual learning plan that includes objectives, schedule of activities, products, and methods of evaluation. Prerequisite: Permission of chairperson or assistant chairperson. *1-3 sem. hrs.*

EDT 458. CAREER EDUCATION—COMMUNITY INVOLVEMENT: Curriculum, planning, instructional methods, materials, and evaluation techniques for facilitating career awareness and choices in students with varied needs and abilities; special emphasis on use of community resources. *3 sem. hrs.*

EDT 460. SCIENCE IN ELEMENTARY SCHOOL: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching science to students with varied needs and abilities. Clinical experience (20 hrs.). Prerequisites: EDT 208, 296. *2 sem. hrs.*

EDT 461. ADVANCED COMPUTERS IN EDUCATION: Design of instruction using computers in the classroom. LOGO and word-processing skills presented and developed. Prerequisite: EDT 451. *3 sem. hrs.*

EDT 465. DISCIPLINE SKILLS IN THE CLASSROOM: Study of selected theories and strategies to improve student behavior for academic success. *2-3 sem. hrs.*

EDT 468. DIAGNOSIS OF READING DIFFICULTIES: Study of formal and informal diagnostic tests and procedures for identifying reading strengths and weaknesses with applications for reading programs. Field experience (36 hrs.). First term. Prerequisites: EDT 320, 321. *4 sem. hrs.*

EDT 469. READING IN THE CONTENT AREAS: Study of reading problems and techniques for teaching vocabulary and reading skills in various content areas. Clinical experience (8 hrs.); plus field experience (24 hrs.) for secondary education majors. Prerequisites: elementary education majors EDT 320, 321; secondary, health, physical education majors EDT 351 or permission. *1-3 sem. hrs.*

EDT 470. PRE-KINDERGARTEN INSTRUCTION: Study of the organization and structure of pre-kindergarten programs including working with parents, laws and regulations, operational strategies, and teaching methods and materials. Second term, odd-numbered years. Prerequisite: EDT 250. *3 sem. hrs.*

EDT 471. STUDENT TEACHING—PRE-KINDERGARTEN: Full-time supervised and evaluated teaching in a pre-kindergarten. Student is to demonstrate the knowledge, skills, attitudes, and values required of a beginning pre-kindergarten teacher. Weekly seminar. Prerequisites: EDT 470, 413. *3 sem. hrs.*

EDT 478. COMPARATIVE EDUCATION: Study of educational systems in selected countries. Appropriate comparisons of systems of education in Marxist countries and those in democratic countries. Special projects. *3 sem. hrs.*

EDT 480. PSYCHOLOGY AND EDUCATION OF THE MENTALLY RETARDED: Study of identification, assessment, characteristics, learning theories, and curriculum planning appropriate to the mentally retarded. Field experience (20 hrs.). Prerequisite: EDT 390. *3 sem. hrs.*

EDT 481. ART IN ELEMENTARY SCHOOL: Curriculum, planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching art to students with varied needs and abilities. Clinical experience (2 hrs.). Prerequisite: ART 101. *2 sem. hrs.*

EDT 483. MUSIC IN ELEMENTARY SCHOOL: Curriculum, planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching music to students with varied needs and abilities. Prerequisite: MUS 104. *2 sem. hrs.*

EDT 486. CURRENT INNOVATIONS IN EDUCATION: Presentation, examination, and evaluation of recent trends in curriculum and instructional strategies in elementary and secondary schools. *3 sem. hrs.*

EDT 487. CAREER DEVELOPMENT—SPECIAL EDUCATION: Theory and techniques of job classifiication, assessment, selection, placement, and activities related to work experience from pre-school to adult. Prerequisite: EDT 480. *2 sem. hrs.*

EDT 488. COUNSELING PARENTS OF EXCEPTIONAL CHILDREN: Theory and techniques to help teachers work with parents to improve home-school relationships and to develop parent-teacher partnerships. Prerequisite: EDT 390. *3 sem. hrs.*

EDT 489. EDUCATION OF THE MULTI-HANDICAPPED: Curriculum, planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching the pre-school to adult multi-handicapped. Clinical experience (10 hrs.). Prerequisites: EDT 480, 496. *2 sem. hrs.*

EDT 491. VALUES CLARIFICATION AND MORAL DEVELOPMENT: Examination and evaluation of the theories and techniques of clarifying values and facilitating moral development in students with varied needs and abilities. *3 sem. hrs.*

EDT 492. CURRICULUM AND METHODS—MR: Curriculum, planning, assessment, diagnosis, instructional materials, and evaluation techniques for placement and individual programming for the MR student. Clinical experience (30 hrs.). Prerequisite: EDT 480. *6 sem. hrs.*

EDT 493. EDUCATING STUDENTS WITH LD/BD: Study of history, identification, characteristics, learning theories, and curriculum planning appropriate to the education of students with learning disabilities and behavior disorders. Clinical experience (20 hrs.). Prerequisite: EDT 390. *3 sem. hrs.*

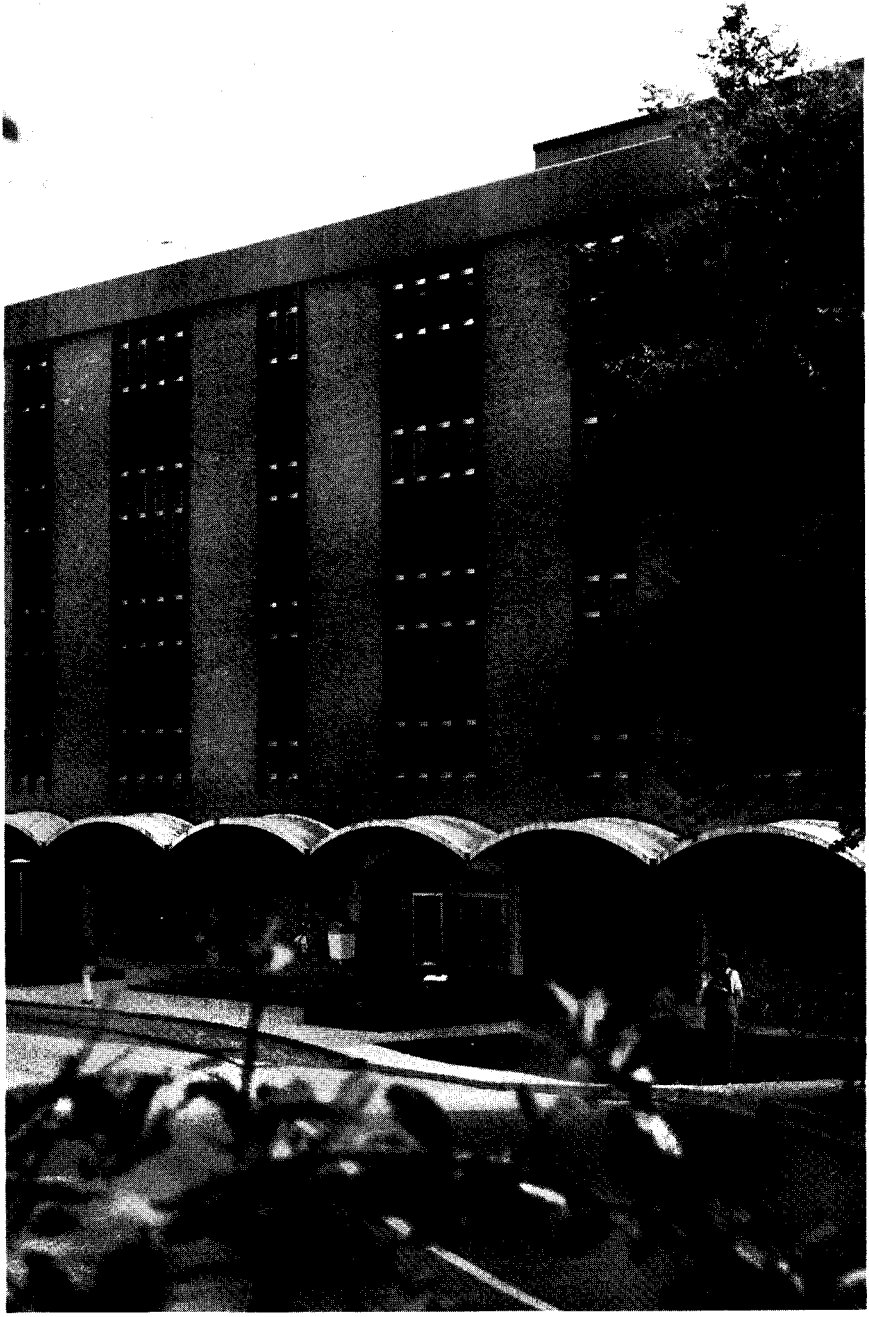
EDT 494. DIAGNOSTIC TEACHING IN LD/BD: Formal and informal assessment and diagnosis, instructional strategies, materials, and evaluation techniques for teaching students with learning disabilities and behavior disorders. Field experience (18 hrs.). Prerequisite: EDT 493. *3 sem. hrs.*

EDT 495. STUDENT TEACHING — LD/BD: Full-time supervised and evaluated teaching in an LD/BD classroom. Student is to demonstrate the knowledge, skills, attitudes, and values of a beginning LD/BD teacher. Prerequisites: EDT 413 or 420 or EDP 418; EDT 494, 496. *3 sem. hrs.*

EDT 496. CLASSROOM STRUCTURE AND BEHAVIOR MANAGEMENT: Principles and methods of observing, recording, measuring, and managing human behavior with emphasis for students with mental retardation, learning disabilities, and behavior disorders. Prerequisite: EDT 390 or 351. *3 sem. hrs.*

EDT 498. CREATIVE TEACHING WITH NEWSPAPERS AND OTHER MATERIALS: Innovative uses of newspapers and other inexpensive or free materials to teach mass communication media literacy and enhance the academic skills of students of varied needs and abillities. The *Journal Herald* cooperates in implementing this course. *3 sem. hrs.*

*General education course. See Chapter V.



IX School of Engineering

Gordon A. Sargent, Dean
James L. McGraw, Associate Dean for Engineering Technology

The School of Engineering has as its purpose the preparation of men and women for professional careers in engineering and in technology in order that they may assume responsible positions of a technical or semi-technical nature in business, industry, education, and government. Of primary concern is the development of professional competencies and philosophies within the various engineering and technology disciplines as well as a broad outlook on the technical and social problems that confront society. Additionally, the engineering and technology programs provide excellent background for other career areas.

The engineering program in each of the fields of chemical, civil, electrical, and mechanical engineering is designed to lead to a bachelor's degree in a four-year period. While students pursue curricula they themselves have chosen according to their fields of interest, they all take certain core courses in mathematics, chemistry, physics, English, computer science, and engineering fundamentals. Each engineering program permits additional concentrations of study in energy conversion, industrial and systems engineering, environmental engineering, aerospace engineering, and materials science. Although emphasis is on fundamental theory, continued attention is paid to the solution of practical problems which the student will encounter in the practice of engineering. As an educational unit of a private university, the School of Engineering strongly emphasizes the counseling of students in order that they may achieve their educational objectives within the engineering program. Each student is assigned a faculty advisor. Academic counseling begins before the students begin their formal course work and continues as they progress toward their objectives.

The engineering technologist is concerned with the application of established scientific and engineering knowledge and methods. Therefore, engineering technology programs consist of courses especially designed to emphasize the use of engineering knowledge. The engineering technologist is usually involved in the design, testing, and sales of products and equipment; the design management of manufacturing systems; or the supervision of other technologists. The Engineering Technology Division of the School of Engineering has as its objective the collegiate education of young men and women to be competent engineering and scientific technologists. It is the philosophy of the Engineering Technology Division that this objective is best accomplished by (1) providing specialized technical courses that emphasize rational thinking and the application of scientific principles to the practical solution of technological problems, (2) providing courses in mathematics and basic science sufficient to support the technical courses and to prepare the student for future growth, and (3) providing education to prepare students to communicate intelligently and to take their places in society as responsible, humane citizens.

The broader responsibilities of the engineering profession demand that the professional training of an engineer include a significant component of humanities, ethics, and social science studies in order that the student will become aware of the urgent problems of society and develop a deeper appreciation of the cultural achievements of humanity. Additionally, such studies provide the proper framework to insure that scientific discoveries and developments by engineers may result in the real advancement of the human race.

TRANSFER STUDENTS

The engineering programs welcome transfer students from both community and senior colleges and work closely with many schools to facilitate transfers from pre-engineering programs. Students may complete the first two years of study in other accredited institutions and transfer to the University of Dayton with little or no loss of credit provided that they have followed programs similar to those prescribed by the University of Dayton School of Engineering.

The School of Engineering has dual degree arrangements with Wilberforce University and the College of Mount St. Joseph (Ohio) as well as curriculum agreements with Thomas More College, Brescia College, and Sinclair Community College.

The engineering technology programs welcome transfer students from associate degree programs in engineering technology who wish to pursue the Bachelor of Science in Engineering Technology. Graduates of two-year associate degree programs in engineering technology should normally expect to undertake at least two additional years of work for the bachelor's degree.

OPTIONAL COOPERATIVE EDUCATION PROGRAM

Students majoring in chemical engineering, civil engineering, electrical engineering, mechanical engineering, chemical technology, electronic engineering technology, and mechanical engineering technology may participate in the Cooperative Education Program. To be eligible, they must have completed three semesters and have a cumulative grade point average of not less than 2.3. Those applying for the program will be accepted on the basis of grade point average, motivation, and attitude. The number of students placed depends on the availability of jobs. The Cooperative Education Program offers the student the opportunity to place classroom work into practical use while still in school, resulting in early career identification and greater motivation as well as providing a source of funds. See also Chapter X.

MINORS IN ENGINEERING

The student majoring in chemical, civil, electrical, or mechanical engineering may choose a minor concentration area of technical study. The minors program in the School of Engineering provides an opportunity to specialize in a particular technical subarea while still pursuing a major program of study in one of the traditional and well recognized engineering disciplines. The minors program was designed in response to the needs of industry and government and to the educational needs and career objectives of students. Election of the minor is optional; it does not add extra courses or degree requirements for graduation.

The minor concentration is defined as 12 semester hours of work. It can be composed of any number of 1- to 3-semester-hour courses selected from the approved list of minor areas of study, which currently includes the following:

Aerospace Engineering
Automatic Control Systems
(Bio-Engineering)[1]
Chemical Processing
Digital Systems
Dynamic Analysis of Mechanical Systems
Energy Conversion
Engineering Mechanics
Environmental Engineering
Industrial and Systems Engineering
Magnetics
Materials Engineering
Mechanics of Engineering Systems
Structures
Thermal Engineering

Students, in consultation with their faculty advisors, normally select the minor concentration in the second semester of the sophomore year. The minor concentration is designated on the student's transcript.

[1]Although the absence of a bio-engineering supporting department or departmental specialty curriculum prevents the offering of a bio-engineering minor, the courses constitute a preparation for bio-engineering graduate work. "Bio-Engineering preparation" will appear on the student's transcript.

ENGINEERING FRESHMAN REQUIREMENTS

Students who are recent high school graduates or who have earned fewer than 15 semester hours of collegiate credit are classified as new freshmen and must meet the common engineering program requirements as detailed below. Such credit requirements may be met in a number of ways, including (1) advanced college-level course work at the University of Dayton or other collegiate institutions; (2) CLEP, CEEB, or other advanced-standing testing; (3) departmental examination during the first term, or work experience equivalent; or (4) taking the prescribed courses as part of the freshman year. Each request for advanced standing by credit must be initiated by the student in consultation with the engineering faculty counselor to the office of the dean of engineering.

Students admitted as undeclared will be accepted into departments of their choice on a space-available basis.

REQUIRED FIRST-YEAR PROGRAM

Dept.	*No.*	*Courses*	*Semester Hours*
CPS	132	Computer Programming for Engineering and Science	3
CHM	123	General Chemistry	4
EGM	101	Statics	3
EGR	103	Introduction to Engineering	2
ENG	101	College Composition I	3
MTH	118-119	Analytic Geometry and Calculus I, II	8
MEE	106L	Engineering Design Graphics I	2
PHY	206	General Physics I	3
HST	101 or 102	History of Western Civilization[1]	3
—	—	Introductory philosophy or religious studies	3
		Total first-year credit requirements	34

[1]Chemical engineering students will take CHM 124 and postpone this general education requirement until the junior year.

DEGREE REQUIREMENTS

A student enrolls in the curriculum prescribed for the academic year in which he or she is registered as a freshman at the University of Dayton or elsewhere. If for any reason it is necessary or desirable to change to a subsequently established curriculum, the student must meet all of the requirements of the new curriculum.

The degree—Bachelor of Chemical, Civil, Electrical, or Mechanical Engineering—is conferred at commencement if the following requirements have been fulfilled:

1. All prescribed courses outlined in the respective curricula must have been passed with grades of D or better. Although courses may be scheduled in terms other than as listed, all prerequisites and corequisites must be met.

2. All students in the School of Engineering must register under Grade Option 1 for all courses in engineering, mathematics, and science except those offered only under Grade Option 2.

3. The cumulative quality-point average in the student's engineering curriculum must be at least 2.0 (C average).

4. The student must have attended the School of Engineering at the University of Dayton during the senior year, carrying at least 30 semester hours.

The semester hours of credit required for graduation in each engineering curriculum administered by the School of Engineering are as follows:

Bachelor of Chemical Engineering 136
Bachelor of Civil Engineering 137
Bachelor of Electrical Engineering 137
Bachelor of Mechanical Engineering 134

5-YEAR COMBINED BACHELOR'S-MASTER'S ENGINEERING PROGRAM

The School of Engineering offers a combined 5-year program leading to both a bachelor's degree in a departmental major (chemical, civil, electrical, or mechanical engineering) and a master's degree. Physics majors (College of Arts and Sciences) may also participate. The program is designed for the qualified student who wishes to pursue either greater specialization in a major area or to complement the undergraduate program with a related graduate-level concentration. Most students who select the program have received some advanced placement upon entry to engineering at the freshman level or take occasional summer courses.

The formal request for entrance into this program is made before the first semester of the student's junior year. Admission requirements include a minimum cumulative grade point average of 2.8 and permission from the chairperson of the department corresponding to the student's undergraduate major. Selection of the graduate (master's) program area is indicated below:

Undergraduate Program	*Graduate Program Selections*
Chemical Engineering	Aerospace Engineering Chemical Engineering Engineering Management Engineering Science Materials Engineering
Civil Engineering	Civil Engineering Engineering Management Engineering Science Materials Engineering
Electrical Engineering	Aerospace Engineering Electrical Engineering Engineering Management Engineering Science Materials Engineering

Mechanical Engineering	Aerospace Engineering Engineering Management Engineering Science Materials Engineering Mechanical Engineering
Physics	Materials Engineering

The department chairperson and the graduate program director serve as an advisory committee to the student in establishing the 5-year combined program requirements. The freshman, sophomore, and junior years follow the curriculum of the student's selected bachelor's program. The guideline curriculum requirements for the 4th and 5th years are given below.

A student who elects the 5-year combined program must satisfy both undergraduate and graduate degree requirements as to required cumulative grade point average for graduation. The graduate of the combined program will receive a bachelor's degree in the undergraduate major (e.g., Bachelor of Mechanical Engineering) and a master's degree in the graduate area (e.g., Master of Science in Materials Engineering). A student in the 5-year combined program who chooses not to complete the program must complete all the undergraduate major program requirements to receive the bachelor's degree.

PROGRAM—EN6: 5-YEAR BACHELOR'S-MASTER'S PROGRAM

Course Area	*Semester Hours*	
Senior Year	1st Term	2nd Term
Undergraduate department major	11	11
Undergraduate department or University requirement or electives	3	3
Graduate major (graduate credit)	3	3
	17	17
Fifth Year		
Graduate major (including thesis or project)	12	12

CHEMICAL ENGINEERING (CME)

Chemical engineering applies the principles of the physical sciences, economics, and human relations to fields that pertain to processes and process equipment in which matter is treated to effect a change in state, energy, or composition.

The first part of the chemical engineering curriculum provides a firm foundation in mathematics, physics, and chemistry. The chemistry background is stressed. Courses include general, organic, and physical chemistry. The second part of the curriculum stresses chemical engineering topics such as transport phenomena, thermodynamics, kinetics, unit operation and processes, process control, materials of construction, and design.

The Chemical Engineering Department offices are in the Kettering Building and the laboratories in Wohlleben Hall. Three stories of the north wing of Wohlleben Hall house the Unit Operations Laboratory. Experimental equipment includes units for the study of fluid flow, heat transfer, distillation, extraction, filtration, evaporation, and drying. The Process Control and Transport Phenomena Laboratories are on the second floor. The Thermal Combustion Laboratory is on the third floor. In addition, the department has a woodworking shop, a pipe-fitting shop, an analytical laboratory, and a darkroom.

The curriculum in chemical engineering serves as basic training for graduate study or for positions in diverse areas of the chemical industry.

Those interested in pursuing careers in medicine or biochemical engineering should contact the department chairperson.

PROGRAM—EN1: BACHELOR OF CHEMICAL ENGINEERING (CME)

Dept.	*No.*	*Course*	*1st Term*[1]	*2nd Term*
		Sophomore Year		
CME	203	Material and Energy Balances	3-0-3	
CME	204	Experimental Methods for Chemical Engineers		3-0-3
CHM	313-314	Organic Chemistry	3-3-4	3-3-4
ENG	102	College Composition II	3-0-3	
MTH	218	Analytic Geometry and Calculus III	4-0-4	
MTH	219	Applied Differential Equations		3-0-3
PHY	207-208	General Physics II, III	3-0-3	3-0-3
—	—	General education requirement[2]		3-0-3
			17	16
		Junior Year		
CME	305	Thermodynamics		3-0-3
CME	324-325	Transport Phenomena	3-0-3	3-0-3
CME	326L	Transport Phenomena Laboratory		0-3-1
CME	381	Applied Mathematics for Chemical Engineers	3-0-3	
CME	408B	Seminar	1-0-0	1-0-0
CHM	303-304	Physical Chemistry	3-3-4	3-0-3
ELE	321	Basic Electric Theory		3-0-3
HST	101 or 102	History of Western Civilization	3-0-3	
SPE	101	Fundamentals of Effective Speaking	3-0-3	
—	—	General education requirement[2]		3-0-3
			16	16

		Senior Year		
CME	306	Kinetics	3-0-3	
CME	408	Seminar	1-0-1	
CME	411-412	Unit Operations I, II	3-0-3	3-0-3
CME	413L-414L	Unit Operations Laboratory	0-5-2	0-5-2
CME	430-431	Chemical Engineering Design I, II	3-0-3	3-0-3
CME	452	Process Control	3-0-3	
CME	453L	Process Control Laboratory		0-3-1
—	—	General education requirements[2]	3-0-3	9-0-9
			18	18

[1]For example: 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. credit.

[2]See General Education Requirements, Chapter V. Some general education requirements are specified in the program (e.g., PHY 208); others are to be chosen from the listing of approved courses. Consult advisor.

FACULTY

Edmund J. Rolinski, *Chairperson*
Professors: Primrose, Rolinski, Servais
Associate Professors: Lu, Sandhu
Assistant Professors: Sandy, Lee
Adjunct Assistant Professors: Kessler, Fasano, Griffin

COURSES OF INSTRUCTION

CME 203. MATERIAL AND ENERGY BALANCES: Introduction to chemical engineering with lectures and problems on material and energy balances as applied to industrial processes. Prerequisites: CHM 123, MTH 118. First term, each year. *3 sem. hrs.*

CME 204. EXPERIMENTAL METHODS IN CHEMICAL ENGINEERING: Introduction to chemical engineering instrumentation, data analysis, experiment design, and report writing with applications in thermofluidmechanics. Prerequisites: CME 203, CHM 124L. Second term, each year. *3 sem. hrs.*

CME 305. THERMODYNAMICS: Development of the fundamental principles of thermodynamics, particularly with respect to chemical engineering processes. Prerequisite: MTH 218. *3 sem hrs.*

CME 306. KINETICS: Reaction kinetics, catalysis, and adsorption. Prerequisite: CME 305. First term, each year. *3 sem. hrs.*

CME 324. TRANSPORT PHENOMENA I: Viscosity, shell momentum balances, isothermal equations of change, thermal conductivity, shell energy balances, nonisothermal equations of change, diffusivity, concentration profiles. Prerequisite: MTH 219. Corequisite: CME 381. *3 sem. hrs.*

CME 325. TRANSPORT PHENOMENA II: Friction factor, dimensionless correlations, isothermal macroscopic balances, Bernoulli's Equation, heat transfer coefficients, heat transfer correlations, heat exchangers, nonisothermal macroscopic balances. Prerequisite: CME 324. Second term, each year. *3 sem. hrs.*

CME 326L. TRANSPORT PHENOMENA LABORATORY: Viscosity, velocity profiles, temperature profiles, heat transfer coefficients, diffusivity, compressibility factors for gases. Prerequisite: CME 324. Corequisite: CME 325. Second term, each year. *1 sem. hr.*

CME 381. ADVANCED MATHEMATICS FOR CHEMICAL ENGINEERS: Study of mathematics to support transport phenomena and process control. Vector calculus, solution of partial differential equations, and Laplace transforms. Prerequisite: MTH 219. First term, each year. *3 sem. hrs.*

CME 408A. SEMINAR: Presentation of lectures on contemporary chemical engineering subjects by students, faculty, and engineers in active practice. Registration required of all students in their last term prior to graduation. *1 sem. hr.*

CME 408B. SEMINAR: Presentation of lectures on contemporary chemical engineering subjects by students, faculty, and engineers in active practice. Registration required of all junior and senior students not registered in CME 408A. *no credit*

CME 411. UNIT OPERATIONS I: Fluid mechanics, transportation of fluids, flow of heat, evaporation, filtration, and mixing. Prerequisites: CME 324-325. First term, each year. *3 sem. hrs.*

CME 412. UNIT OPERATIONS II: Continuation of CME 411. Distillation, extraction, gas phase mass transfer, gas absorption, drying, and crystallization. Prerequisite: CME 411. Second term, each year. *3 sem. hrs.*

CME 413L. UNIT OPERATIONS LABORATORY: Unit operations equipment and its utilization. Prerequisite: CME 324. First term, each year. *2 sem. hrs.*

CME 414L. UNIT OPERATIONS LABORATORY: Continuation of CME 413L. Prerequisite: CME 325. Second term, each year. *2 sem. hrs.*

CME 430. CHEMICAL ENGINEERING DESIGN I: Study of the principles of process development, plant design, and economics. Corequisite: CME 411. First term, each year. *3 sem. hrs.*

CME 431. CHEMICAL ENGINEERING DESIGN II: Application of the principles of process development, plant design, and economics. Prerequisite: CME 430. Second term, each year. *3 sem. hrs.*

CME 440. SYNTHETIC FUELS: Principles of synthetic fuels technology such as pyrolysis, gasification, gas shift and synthesis, and direct liquefaction, with economic and environmental considerations. Departmental elective. Prerequisites: CHM 304, CME 305, 306. Second term, each year. *3 sem. hrs.*

CME 441. LASERS IN ENGINEERING MEASUREMENT: Modern physics, light scattering, introduction to lasers, laser velocimetry, spectroscopy, signal detection and processing, flow visualization, holography, common features of laser diagnostics. Prerequisites: CME 204 or equivalent, MTH 219, PHY 207-208. *3 sem. hrs.*

CME 452. PROCESS CONTROL: Block diagrams, system transfer functions, feedback, transient and steady state response, root locus method, frequency response, Bode diagrams, analog computer. Prerequisite: CME 381. First term, each year. *3 sem. hrs.*

CME 453L. PROCESS CONTROL LABORATORY: Analog computer programming, analog solution of differential equations, frequency response, Bode diagrams, computer simulation, open and closed loop system response. Report writing emphasized. Prerequisite: CME 452. *1 sem. hr.*

CME 499. SPECIAL PROBLEMS IN CHEMICAL ENGINEERING: Particular assignments to be arranged and approved by chairperson of the department. *1-6 sem. hrs.*

CIVIL ENGINEERING (CIE)

Civil engineers, leading users of high technology in wide-ranging applications in both the public and the private sectors, are essential to the continued improvement of society. Civil engineers can enter traditional fields such as construction, bridge and building design and analysis, highway design and traffic control, water treatment and distribution, environmental control, hydraulics, and geotechnics. However, their broad education also prepares them for materials engineering, engineering management, and the aerospace and automotive industries. Civil engineering has applications in conceptual and detail design, field operations, computers, and consulting.

The civil engineering curriculum prepares the graduate to function not only within the civil and aerospace communities but also with other engineering disciplines and nontechnical components of society. The freshman and sophomore years build a sound foundation in mathematics, physics, chemistry, and basic engineering science and mechanics. The junior and senior years focus on technical subjects related primarily to civil engineering, with electives available to permit either specialization or preparation for graduate study.

Members of the student chapter of the American Society of Civil Engineers have the opportunity to meet regularly with practicing engineers in the Dayton community.

PROGRAM—EN2: BACHELOR OF CIVIL ENGINEERING (CIE)

Dept.	*No.*	*Course*	*1st Term*[1]	*2nd Term*	
		Sophomore Year			Summer
CIE	213	Surveying	2-0-2		
EGM	303	Strength of Materials	3-0-3		
ENG	102	College Composition II	3-0-3		
MTH	218	Analytic Geometry and Calculus III	4-0-4		
MEE	227L	Engineering Graphics II	0-3-1		
PHY	207-208	General Physics II, III	3-0-3	3-0-3	
CIE	408	Seminar I	1-0-0	1-0-0	
CIE	214	Highway Geometrics		2-0-2	
EGM	301	Dynamics		3-0-3	
GEO	218	Engineering Geology		3-0-3	
MTH	219	Applied Differential Equations		3-0-3	
SPE	101	Fundamentals of Effective Speaking		3-0-3	
CIE	215L	Surveying Field Practice			0-0-3
			16	17	3
		Junior Year			
CHM	124	General Chemistry	3-3-4		
CIE	313	Hydraulics	3-3-4		
CIE	316	Analysis of Determinate Structures	3-0-3		
CIE	320	Civil Engineering Analysis	3-0-3		
CIE	408	Seminar I	1-0-0	1-0-0	
—	—	General education requirements[2]	3-0-3	6-0-6	
CIE	310L	Civil Engineering Laboratory		0-3-1	
CIE	312	Soil Mechanics		3-3-4	
CIE	317	Analysis of Indeterminate Structures		3-0-3	
CIE	333	Environmental Engineering I		3-0-3	
			17	17	

		Senior Year		
CIE	403	Transportation Engineering	3-0-3	
CIE	408	Seminar I	1-0-0	
CIE	411	Design of Steel Structures	3-3-4	
CIE	434	Environmental Engineering II	3-0-3	
PHL	316	Engineering Ethics	3-0-3	
—	—	Science or engineering elective	3-0-3	
CIE	412	Design of Concrete Structures		3-3-4
CIE	428	Seminar II		1-0-1
CIE	—	Civil engineering electives		6-0-6
—	—	General education requirements[2]		6-0-6
			16	17

[1]For example, 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. credit.

[2]See General Education Requirements, Chapter V. Some general education requirements are specified in the program (e.g. PHY 208); others are to be chosen from the listing of approved courses. Consult advisor.

FACULTY

Fred K. Bogner, *Chairperson, Department of Civil Engineering and Engineering Mechanics*
Professors: Bogner, Ryckman, Thomson
Associate Professors: Payne, Phillips, G. Shaw, Weiss
Assistant Professors: Anessi, Saliba
Adjunct Associate Professor: Palazotto

COURSES OF INSTRUCTION

CIE 211. SURVEYING: Theory of measurements, computation and instrumentation. Boundary and construction surveys, celestial observations, triangulation and level net adjustments, elementary geodesy, and state coordinate systems. Corequisite: MTH 118. First term, each year. *3 sem. hrs.*

CIE 212. HIGHWAY GEOMETRICS: Study of photogrammetry, circular and spiral curves, vertical curves, grade lines, earthwork and mass diagram, slope and grade stakes, contour grading, and use of aerial photographs. Prerequisite: CIE 211. Second term, each year. *3 sem. hrs.*

CIE 213. SURVEYING: Theory of measurements, computation, and instrumentation. Boundary and construction surveys, triangulation, and level net adjustments. Corequisite: MTH 118. First term, each year. *2 sem. hrs.*

CIE 214. HIGHWAY GEOMETRICS: Study of circular and spiral curves, vertical curves, grade lines, earthwork and mass diagram, slope and grade stakes, and contour grading. Prerequisite: CIE 213. Second term, each year. *2 sem. hrs.*

CIE 215L. SURVEYING FIELD PRACTICE: Field work and computation in topography, highway surveying, triangulation, level net, celestial observations, evaluation of errors, and preparation of plans. Five eight-hour days a week for three weeks. Prerequisite: CIE 212 or 214. Summer, each year. *3 sem. hrs.*

CIE 310L. CIVIL ENGINEERING LABORATORY: Experiments and studies relating the engineering properties of certain building materials to their fundamental nature and composition. Prerequisite: EGM 303. Second term, each year. *1 sem. hr.*

CIE 312. SOIL MECHANICS: Principles of soil structures, classification, capillarity, permeability, flow nets, shear strength, consolidation, stress analysis, slope stability, lateral pressure, bearing capacity, and piles. Prerequisites: CIE 316, GEO 218. Corequisite: CIE 312L. Second term, each year. *3 sem. hrs.*

CIE 312L. SOIL MECHANICS LABORATORY: Laboratory tests to evaluate and identify soil properties for engineering purposes. Design problems included. Corequisite: CIE 312. Second term, each year. *1 sem. hr.*

CIE 313. HYDRAULICS: Principles of liquid statics and fluid flow including similitude, measuring devices, channel and pipe flow, turbines, and pumps. Corequisites: CIE 313L, EGM 301. First term, each year. *3 sem. hrs.*

CIE 313L. HYDRAULICS LABORATORY: Laboratory experiments and problems associated with CIE 313. Corequisite: CIE 313. First term, each year. *1 sem. hr.*

CIE 315. THEORY OF STRUCTURES: Analysis of statically determinate trusses, beams, and frames subjected to fixed and moving loads. Prerequisite: EGM 303. Second term, each year. *3 sem. hrs.*

CIE 316. ANALYSIS OF DETERMINATE STRUCTURES: Elastic analysis of statically determinate structures; deflections; moment-area theorems; conjugate-beam; virtual work; influence lines; shear center; unsymmetric bending; stresses and strains at a point; theories of failure. Prerequisite: EGM 303. First term, each year. *3 sem. hrs.*

CIE 317. ANALYSIS OF INDETERMINATE STRUCTURES: Elastic analysis of statically indeterminate structures; virtual work; Castigliano's theorems; slope deflection and moment distribution; development of stiffness matrices for use in computer analysis; influence lines, column analogy, limit analysis. Prerequisite: CIE 316. Second term, each year. *3 sem. hrs.*

CIE 320. CIVIL ENGINEERING ANALYSIS: Mathematical modeling and numerical solution of civil engineering problems: basic concepts of probability with emphasis on applications to structures, transportation, and hydraulics problems; application of numerical computational methods in civil engineering problems. Prerequisites: EGM 301, 303, MTH 219. First term, each year. *3 sem. hrs.*

CIE 333. ENVIRONMENTAL ENGINEERING I: Integrated study of the principles of water sanitation, water supply, stream pollution abatement, and waste water disposal systems. Prerequisites: CIE 313, 313L. Second term, each year. *3 sem. hrs.*

CIE 390. ENVIRONMENTAL POLLUTION CONTROL: Study of environmental pollution problems relating to air, water, and land resources. Causes and effects of pollution; technology for solving the problems. Legal and political considerations. For juniors and seniors other than civil engineering students. Credit may not be applied toward civil engineering degree. Prerequisite: Some knowledge of chemistry. *3 sem. hrs.*

CIE 403. TRANSPORTATION ENGINEERING: Fundamentals of transportation engineering, including design, construction, maintenance, and economics of transportation facilities. Prerequisites: CIE 310L, 313. *3 sem. hrs.*

CIE 406. INDETERMINATE STRUCTURES: Analysis of statically indeterminate trusses, beams, and frames subjected to fixed and moving loads. Prerequisite: CIE 315. Second term, each year. *3 sem. hrs.*

CIE 408. SEMINAR I: Practice in the presentation and discussion of papers; lectures by staff and prominent engineers. Attendance required of all civil engineering sophomores, juniors, and nongraduating seniors. *No credit*

CIE 411. DESIGN OF STEEL STRUCTURES: Design and behavior of structural steel connections, columns, beams, and beams subjected to tension, compression, bending, shear, torsion, and composite action. Prerequisites: CIE 310L, 317. Corequisite: CIE 411L. Alternating first and second terms. *3 sem. hrs.*

CIE 411L. DESIGN OF STEEL STRUCTURES LABORATORY: Applications of design theory to structural steel systems. Corequisite: CIE 411. *1 sem. hr.*

CIE 412. DESIGN OF CONCRETE STRUCTURES: Design and behavior of reinforced concrete slabs, beams, columns, walls, and footings subjected to tension, compression, bending, shear, and torsion. Prerequisites: CIE 310L, 317. Corequisite: CIE 412L. Alternating first and second terms. *3 sem. hrs.*

CIE 412L. DESIGN OF CONCRETE STRUCTURES LABORATORY: Application of design theory to structural concrete systems. Corequisite: CIE 412. *1 sem. hr.*

CIE 415. STEEL STRUCTURE DESIGN: Design and behavior of structural steel connections, columns, beams, and plate girders subjected to tension, compression, bending, shear, torsion, and composite action. Prerequisite: EGM 304. First term, each year. *3 sem. hrs.*

CIE 417. REINFORCED CONCRETE: Design and behavior of reinforced concrete slabs, beams, columns, walls, and footings subjected to tension, compression, bending, shear, and torsion. Prerequisites: CIE 310L, 315. First term, each year. *3 sem. hrs.*

CIE 418. STRUCTURAL DESIGN PROJECTS: Continuation of CIE 415 and 417, where the student applies knowledge of reinforced concrete and structural steel in designing and studying behavior of complete structures. Prerequisites: CIE 415, 417. Corequisite: CIE 406. Second term, each year. *3 sem. hrs.*

CIE 421. CONSTRUCTION ENGINEERING: Organization, planning, and control of construction projects, including a study of the use of machinery, economics of equipment, methods, materials, estimates, cost controls, and fundamentals of CPM and PERT. Departmental elective. Corequisite: CIE 403. *3 sem. hrs.*

CIE 428. SEMINAR II: Practice in the presentation and discussion of papers; lectures by staff and prominent engineers. Attendance required of civil engineering second-term seniors only. First and second terms, each year. *1 sem. hr.*

CIE 434. ENVIRONMENTAL ENGINEERING II: Problems of air, water, and land pollution; development and design of public water supply and waste water disposal systems; legal, political, ethical, and moral considerations. Prerequisites: CHM 124, CIE 333. First term, each year. *3 sem. hrs.*

CIE 470. CIE COMPUTER APPLICATIONS: Applications of mainframe, mini, and micro computers to the solution of selected civil engineering problems, including data analysis, plotting, optimization, and simulation. Prerequisite: FORTRAN. *3 sem. hrs.*

CIE 499. SPECIAL PROBLEMS IN CIVIL ENGINEERING: Particular assignments to be arranged and approved by chairperson of the department. Departmental elective. *1-6 sem. hrs.*

In addition to courses listed above, students may select with departmental approval civil engineering (CIE) and engineering mechanics (EGM) courses in the 500 series listed in the Graduate Issue of the Bulletin.

ELECTRICAL ENGINEERING (ELE)

The curriculum of the Department of Electrical Engineering is planned with the primary objective of providing a thorough knowledge of the fundamental laws of electricity and the application of these laws in electrical engineering.

Courses are arranged to offer students an understanding of basic principles and practices common to the various fields of electrical engineering, so that they are prepared to begin specialization in their chosen fields or to pursue advanced study.

Proper attention is directed to an appreciation of the practical economic factors in the electrical world and to the cultural and social qualities necessary for a successful career in the engineering profession.

PROGRAM—EN3: BACHELOR OF ELECTRICAL ENGINEERING (ELE)

Dept.	*No.*	*Course*	*1st Term*[1]	*2nd Term*
		Sophomore Year		
ELE	231-232	Circuit Theory I, II	3-0-3[1]	3-0-3
ELE	233	Field Theory I		3-0-3
ELE	235	Digital System Design		3-0-3
ENG	102	College Composition II		3-0-3
MTH	218	Analytic Geometry and Calculus III	4-0-4	
MTH	219	Applied Differential Equations		3-0-3
PHY	207-208	General Physics II, III	3-0-3	3-0-3
SPE	101	Fundamentals of Effective Speaking	3-0-3	
—	—	General education requirement[2]	3-0-3	
			16	18
		Junior Year		
ELE	312-313	Electronics I, II	3-0-3	3-0-3
ELE	314	Principles of Microcomputer Design		3-0-3
ELE	331	Circuit Theory III	3-0-3	
ELE	333	Field Theory II	3-0-3	
ELE	335L-336L	Electrical Engineering Laboratory I, II	0-2-1	0-2-1
ELE	338L	Electrical Engineering Laboratory III		0-2-1
ELE	340	Probability and Discrete Systems		3-0-3
ELE	410B	Seminar	1-0-0	1-0-0
EGM	301	Dynamics	3-0-3	
MTH	—	Mathematics elective[3]		3-0-3
—	—	Technical elective		3-0-3
—	—	General education requirements[2]	6-0-6	
			19	17
		Senior Year		
ELE	410B-A	Seminar	1-0-0	1-0-1
ELE	413	Communication Engineering	3-0-3	
ELE	431	Energy Conversion	3-0-3	
ELE	432	Automatic Control Systems		3-0-3
ELE	435L-436L	Electrical Engineering Laboratory IV, V	0-2-1	0-2-1
ELE	437L	Electrical Engineering Laboratory VI		0-2-1
ISE	313	Engineering Law		2-0-2
—	—	Engineering thermodynamics elective	3-0-3	
—	—	Technical electives	3-0-3	3-0-3
—	—	General education requirements[2]	3-0-3	6-0-6
			16	17

[1]For example: 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. credit.
[2]See General Education Requirements, Chapter V. Some general education requirements are specified in the program (e.g., PHY 208); others are to be chosen from the listing of approved courses. Consult advisor.
[3]Selected from list approved by the Department of Electrical Engineering.

FACULTY

Donald L. Moon, *Acting Chairperson*
Distinguished Service Professor: Schmidt
Professors: Moon, Strnat, Thiele
Associate Professors: Evers, Kubach, Rogers
Assistant Professors: Daniels, Gauder, Westerkamp, Williamson
Adjunct Assistant Professor: Mildrum

COURSES OF INSTRUCTION

ELE 231. CIRCUIT THEORY I: Principles of linear circuit theory. Analysis of resistive circuits having constant or time varying sources. Analysis of transient and steady state behavior of simple circuits containing R, L, and C. Introduction to ECAP. Corequisite: MTH 119. *3 sem. hrs.*

ELE 232. CIRCUIT THEORY II: Sinusoidal analysis: sinusoidal forcing function, phasor concept, steady-state response, resonance, average power and rms values, magnetically coupled circuits, polyphase circuits. Prerequisite: ELE 231. *3 sem. hrs.*

ELE 233. FIELD THEORY I: Vector calculus, static electric fields, conductors, dielectric materials, boundary conditions, field mapping, steady electric currents and their magnetic fields, motion of charged particles. Prerequisite: MTH 218. *3 sem. hrs.*

ELE 235. DIGITAL SYSTEM DESIGN: Logical variables and functions, combinational circuits, sequential circuits, controller design, simple computer design, microprocessors, input/output operations. Prerequisite: ELE 231. *3 sem. hrs.*

ELE 312. ENGINEERING ELECTRONICS I: A first course on the terminal behavior of electron devices. Qualitative physical descriptions, volt ampere curves, graphical solutions. Formulation of incremental and piecewise linear models. Analysis of simple amplifier circuits. Prerequisite: ELE 232 or 321. *3 sem. hrs.*

ELE 313. ENGINEERING ELECTRONICS II: Cascaded amplifiers, feedback amplifiers, linear integrated circuits; steady state and transient response. Oscillators. Digital and switching circuits. Prerequisite: ELE 312. Corequisite: ELE 331. *3 sem. hrs.*

ELE 314. PRINCIPLES OF MICROCOMPUTER DESIGN: Fundamentals of computer architecture. Representation of data and instructions. Methods of transforming information. Memory devices and structures. Interfacing to external devices. Applications and practical problems. Prerequisite: ELE 235, 312. *3 sem. hrs.*

ELE 321. BASIC ELECTRIC THEORY: Fundamental methods of analysis in DC and AC circuits. For chemical, civil, and mechanical engineering students. Prerequisites: PHY 207, MTH 218. *3 sem. hrs.*

ELE 331. CIRCUIT THEORY III: Analysis of transient and steady-state behavior of circuits containing R, L, and C. Use of Laplace transform techniques in circuit theory. Introduction to periodic phenomena and Fourier series analysis. Prerequisites: ELE 232, MTH 219. *3 sem. hrs.*

ELE 333. FIELD THEORY II: Magnetic fields, forces, energy storage; theory of magnetic materials, engineering materials, magnetic circuits; inductance, practical inductors; time varying fields; Maxwell's equations. Prerequisite: ELE 233. *3 sem. hrs.*

ELE 335L. ELECTRICAL ENGINEERING LABORATORY I: Experimental situations stressing familiarization with electrical engineering concepts, hardware, devices, instrumentation, and techniques. Corequisite: ELE 232. *1 sem. hr.*

ELE 336L. ELECTRICAL ENGINEERING LABORATORY II: Quantitative experiments dealing with resonance, coupled circuits, magnetic circuits, instrumentation, and measurements. Prerequisite: ELE 335L. *1 sem. hr.*

ELE 338L. ELECTRICAL ENGINEERING LABORATORY III: Electron devices, amplifiers, feedback circuits, switching circuits, power electronics. Prerequisite: ELE 312. *1 sem. hr.*

ELE 340. PROBABILITY AND DISCRETE SYSTEMS: Foundations of probability theory. Conditional probability, random variables, and distribution functions. Discrete system equations, simulation techniques, and difference equations. Discrete signal processing, sampling and reconstruction, digital filtering. Prerequisites: ELE 235, 331. *3 sem. hrs.*

ELE 343. ELECTROMAGNETICS: Device- and design-related electromagnetics for nonmajors who wish to develop significant electrical engineering design competence. Electric and magnetic forces; energy storage; magnetic circuits; transmission lines; radiation; charged particle dynamics; electro-optic, magneto-optic, and acousto-electric devices. Prerequisite: MTH 219. *3 sem. hrs.*

ELE 410A. SEMINAR: Presentation of papers on contemporary electrical engineering by students; lectures by engineers in active practice. Required for second-term seniors. *1 sem. hr.*

ELE 410B. SEMINAR: Presentation of papers on contemporary electrical engineering by students; lectures by engineers in active practice. Required for juniors and first-term seniors. *No credit*

ELE 413. COMMUNICATION ENGINEERING: Amplitude, angle, and pulse modulation systems. Generation, deletion, and analysis of modulated signals. Power and bandwidth considerations. Introduction to information theory. Prerequisite: ELE 340. *3 sem. hrs.*

ELE 415. MICROWAVE ENGINEERING: Design-oriented course in microwave engineering. Communication, radar, industrial, scientific, and measurement applications described. Operating principles and specifications of current building-block subsystems investigated in sufficient depth to enable engineering design of microwave systems. Departmental elective. Prerequisites: ELE 413, 442. *3 sem. hrs.*

ELE 431. ENERGY CONVERSION: Properties and theory of magnetic circuits as applied to electro-mechanical energy conversion. Nonlinear magnetic devices. Introduction to rotating machine analysis. Field and circuit concepts of rotating machines. Rotating fields. Direct current, synchronous, and induction machines. Prerequisites: ELE 331, 333. *3 sem. hrs.*

ELE 432. AUTOMATIC CONTROL SYSTEMS: Open- and closed-loop systems, mathematical models for control systems, representation of feedback control systems, servomechanism characteristics, stability analysis. Prerequisite: ELE 331. Corequisite: ELE 431. *3 sem. hrs.*

ELE 435L. ELECTRICAL ENGINEERING LABORATORY IV: Digital logic, passive and active filters, networks transmission lines. Prerequisites: ELE 313, 338L. *1 sem. hr.*

ELE 436L. ELECTRICAL ENGINEERING LABORATORY V: Modulation, detection, communication electronics, communication subsystems. Prerequisite: ELE 435L. *1 sem. hr.*

ELE 437L. ELECTRICAL ENGINEERING LABORATORY VI: Experiments dealing with operating and performance characteristics of electromechanical energy converters, application of electronic control to power machinery, and operating and performance characteristics of automatic control systems. Corequisite: ELE 431. *1 sem. hr.*

ELE 438L. PROJECTS LABORATORY: Project-oriented laboratory applying engineering skills in the design, development, and demonstration of electrical and electronic devices. Departmental elective. Prerequisite: Permission of project advisor. *1-3 sem. hrs.*

ELE 440. PHYSICAL ELECTRONICS: Introduction to wave mechanics; electron ballistics; theory of metals and semiconductors; electron emission, space charge flow; modern electron devices. Departmental elective. Prerequisite: MTH 219. *3 sem. hrs.*

ELE 441. PULSE AND DIGITAL CIRCUITS: Transmission networks, differentiating circuits, clippers, comparators, clampers, the transistor as a switch, logic circuits, multivibrators, time base generators, and pulse amplification. Emphasis on application of modern semiconductor devices. Departmental elective. Prerequisite: ELE 313. *3 sem. hrs.*

ELE 442. ENGINEERING ELECTROMAGNETICS: Processing Maxwell's equations and applying the predictions to the analysis and design of engineering systems that make use of electromagnetic energy. ELF through optical frequencies; propagation, radiation, interactions with matter, guided waves, antenna fundamentals. Departmental elective. Prerequisite: ELE 333. *3 sem. hrs.*

ELE 443. INTRODUCTION TO ELECTRO-OPTICS: Introductory overview of the field, starting with Maxwell's equations and leading to lasers, holography, and other timely applications. Departmental elective. Prerequisite: ELE 333. *3 sem. hrs.*

ELE 444. ADVANCED DIGITAL DESIGN: Systems approach to digital design. Structured top-down development process using simple and complex logic modules from various logic families. Application of microcomputer or controller as a flexible logic device. Practical design problems with team and individual projects. Departmental elective. Prerequisites: ELE 314, 340. *3 sem. hrs.*

ELE 499. SPECIAL PROBLEMS IN ELECTRICAL ENGINEERING: Particular assignments to be arranged and approved by chairperson of department. Departmental elective. *1-6 sem. hrs.*

MECHANICAL ENGINEERING (MEE)

Mechanical engineering is an active, versatile branch of engineering. Mechanical engineers conceive, plan, design, and direct the manufacture of a wide variety of devices, machines, and systems used for purposes such as energy conversion, power generation, environmental control, transportation, and materials handling and processing. They are engaged in all of the engineering functions, including design, theoretical and applied research, development, sales engineering, and management.

The curriculum of the Department of Mechanical Engineering introduces the student to fundamental scientific and engineering theories and to the humanities, and provides training and practice in problem-solving techniques. It prepares the graduate engineer to apply these principles and methods to the solution of technological, social, and economic problems. The curriculum also provides the opportunity to continue study at the graduate level to complete the requirement for a master's degree in one additional year. The broad background provided by the mechanical engineering curriculum is often used as a basis for training in other fields, such as law, medicine, bio-engineering, and business management.

PROGRAM—EN4: BACHELOR OF MECHANICAL ENGINEERING (MEE)

Dept.	*No.*	*Course*	*1st Term*[1]	*2nd Term*
		Sophomore Year		
EGM	301	Dynamics	3-0-3[1]	
ENG	102	College Composition II	3-0-3	
MTH	218	Analytic Geometry and Calculus III	4-0-4	
MEE	227L	Engineering Graphics II	0-3-1	
PHY	207-208	General Physics II, III	3-0-3	3-0-3
SPE	101	Fundamentals of Effective Speaking	3-0-3	
EGM	303	Strength of Materials		3-0-3
MTH	219	Applied Differential Equations		3-0-3
MEE	301	Thermodynamics I		3-0-3
MEE	321	Kinematics of Machines		2-3-3
MEE	340L	Engineering Experimentation Laboratory		0-4-2
			17	17
		Junior Year		
MEE	302	Thermodynamics II	3-0-3	
MEE	308	Fluid Mechanics	3-0-3	
MEE	310L	Manufacturing Processes Laboratory	0-3-1	
MEE	312	Engineering Materials	3-3-4	
MEE	316	Mechanical Engineering Analysis	3-0-3	
MEE	414B	Seminar	1-0-0	1-0-0
—	—	General education requirements[2]	3-0-3	3-0-3
ELE	321	Basic Electric Theory		3-0-3
MEE	313	Manufacturing Processes		2-0-2
MEE	319	Mechanical Vibrations		3-0-3
MEE	410	Heat Transfer		3-0-3
—	—	Technical elective[3]		3-0-3
			17	17

		Senior Year		
ELE	312	Engineering Electronics I	3-0-3	
MEE	423L	Mechanical Engineering Laboratory	0-9-3	
MEE	427	Mechanical Design I	3-3-4	
MEE	435	Feedback Control Systems	3-0-3	
—	—	General education requirements[2]	3-0-3	6-0-6
MEE	414B-A	Seminar	1-0-0	1-0-1
MEE	—	Mechanical engineering elective		3-0-3
PHY	316	Engineering Ethics		3-0-3
—	—	Technical elective[3]		3-0-3
			16	16

[1]For example: 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. credit.

[2]See General Education Requirements, Chapter V. Some general education requirements are specified in the program (e.g., PHY 208); others are to be chosen from the listing of approved courses. Consult advisor.

[3]Technical elective to be selected from engineering, mathematics, or science.

FACULTY

John J. Schauer, *Chairperson*
Professors: Boehman, Chuang, Minardi, Ray, Sargent, Schauer, Smith, VonOhain, Wurst
Associate Professors: Brockman, Doyle, Harmer, Havener, Jain, Scott
Assistant Professor: Montgomery
Adjunct Professors: Shine, Weeks
Adjunct Assistant Professors: Endres, Kreitzer, Wurstner

COURSES OF INSTRUCTION

MEE 106L. ENGINEERING DESIGN GRAPHICS I: Fundamentals of engineering graphics and the part that graphical communication plays in engineering. Application of these principles to the development of team proposals and solutions of engineering design problems. Two hours lecture, four hours laboratory. *2 sem. hrs.*

MEE 210L. MATERIALS AND PROCESSES LABORATORY: Mechanics of metal cutting, study of machine tools and machining processes. Basic experiments in metal cutting and workshop metrology. Tensile testing of metals and polymers, creep and hardness testing, modulus of rupture. Industrial field trips. One hour lecture, four hours laboratory. Prerequisites: CHM 123, MEE 106L, PHY 206. *2 sem. hrs.*

MEE 227L. ENGINEERING GRAPHICS II: Training in the analysis and graphical solution of fundamental problems involving three dimensions and the applications of these solutions to engineering problems. Prerequisite: MEE 106L. *1 sem. hr.*

MEE 301. THERMODYNAMICS I: Concepts, definitions, and laws of thermodynamics. Properties of pure substances, introduction to use of thermodynamic property tables and equations of state. Applications of the laws of thermodynamics to processes, heat engines, and control volumes. Prerequisite: MTH 218. *3 sem. hrs.*

MEE 302. THERMODYNAMICS II: Gas and two-phase heating, cooling, and power cycles. Gas mixtures and air conditioning. Chemical reactions in combustion. Chemical equilibrium. Prerequisite: MEE 301. *3 sem. hrs.*

MEE 308. FLUID MECHANICS: Laws and theory relative to incompressible fluids, continuity, momentum, and energy relations in flow situations; internal and external flow in laminar and turbulent regimes. Prerequisites: MEE 301, MTH 219. *3 sem. hrs.*

MEE 310L. MANUFACTURING PROCESSES LABORATORY: Study of metal removal processes and machine tools such as lathes, grinders, milling machines, shapers, and planers; theory and practice of precision dimensional metrology. Three hours of laboratory. Prerequisites: CHM 123, MEE 106L, PHY 206. *1 sem. hr.*

MEE 312. ENGINEERING MATERIALS: Principles of the mechanical, electronic, magnetic, optical, and thermal behavior of metallic, ceramic, and polymeric materials. Introduction to fracture mechanics. Principles of corrosion. Prerequisites: MEE 210L or 310L, EGM 303 or permission of instructor. Corequisite: MEE 312L. *3 sem. hrs.*

MEE 312L. MATERIALS LABORATORY: Experiments illustrating the behavior of metallic, ceramic, and polymeric materials. Strengthening mechanisms, crystallization, metallography, corrosion, thermal processing. Corequisite: MEE 312. *1 sem. hr.*

MEE 313. MANUFACTURING PROCESSES: Casting processes, design of castings, and casting defects; metal working processes; metal shearing and forming; welding processes; powder metallurgy; fabrication processes for plastics. Prerequisites: EGM 303, MEE 210L, 312. *2 sem. hrs.*

MEE 315. MECHANICAL ENGINEERING ANALYSIS: Problem formulation and mathematical modeling of engineering systems and control volumes. Development of computer skills; analysis and generalization of system responses. Introduction to vibration and heat transfer theory and to the application of Fourier series and partial differential equations to engineering problems. Prerequisites: CPS 132, MTH 219, MEE 301, PHY 207. *4 sem. hrs.*

MEE 316. MECHANICAL ENGINEERING ANALYSIS: Problem formulation and mathematical modeling of engineering systems and control volumes. Development of computer skills; analysis and generalization of system responses. Introduction to vibration and heat transfer theory and to the application of Fourier series and partial differential equations to engineering problems. Prerequisites: CPS 132, MTH 219, MEE 301, PHY 207. *3 sem. hrs.*

MEE 319. MECHANICAL VIBRATIONS: Undamped and damped, free and forced vibrations of single degree of freedom translational and rotational systems; vibration isolation and absorption; multi-degree of freedom systems, continuous system, transient vibration, approximate and numerical solution. Prerequisites: CPS 132, EGM 301, MEE 315 or 316. Corequisite: EGM 303. *3 sem. hrs.*

MEE 321. KINEMATICS OF MACHINES: Kinematic analysis of mechanisms and machines; study of machine elements such as linkages, cams, gears, gear trains, and differentials. Prerequisite: EGM 301. Corequisite: MEE 321L. *2 sem. hrs.*

MEE 321L. KINEMATICS OF MACHINES LABORATORY: Laboratory exercises based on principles covered in MEE 321. Prerequisite: EGM 301. Corequisite: MEE 321. 1 sem. hr.

MEE 330. ENGINEERING ECONOMICS: Basic principles and techniques of economic analysis of engineering projects. Prerequisite: MTH 119. *1 sem. hr.*

MEE 340L. ENGINEERING EXPERIMENTATION LABORATORY: Design of experiments; use of instrumentation; data acquisition and processing; error and statistical analysis; comparison to theory; oral presentation; technical report writing. Measurement of basic engineering properties including temperature, pressure, flow rate, power, frequency, displacements, friction, stress, voltage. Prerequisites: ENG 102, PHY 207. Corequisite: MTH 219. *2 sem. hrs.*

MEE 402. ENERGY CONVERSION SYSTEMS: Introduction to global energy concerns; fossil and nuclear fuels; energy consumption analysis; solar energy and alternative energy concepts; nuclear power plants, steam power plants, industrial gas turbines, and total energy power plants; energy management and conservation techniques. Prerequisite: MEE 302 or CME 305 or MCT 232. *3 sem. hrs.*

MEE 403. ENERGY AND WESTERN CIVILIZATION: Introduction to global history of energy: fossil and nuclear fuels; energy consumption analysis; solar energy and alternative energy concepts; nuclear power plants, steam power plants, industrial gas turbines, and total energy power plants; energy management and conservation techniques. Prerequisite: CME 305 or MEE 301 or MCT 232. *3 sem. hrs.*

MEE 410. HEAT TRANSFER: Fundamentals of conduction, convection, and thermal radiation energy transfer. Conduction of heat in steady and unsteady state. Principles of boundary layer theory applicable to free and forced convection heat transfer for internal and external flows. Radiation analysis with and without convection and conduction. Prerequisites: MEE 308, MEE 315 or 316. *3 sem. hrs.*

MEE 414A. SEMINAR: Presentations on contemporary mechanical engineering subjects by students, faculty, and engineers in active practice. Registration required of all students in their last term prior to graduation. *1 sem. hr.*

MEE 414B. SEMINAR: Presentations on contemporary mechanical engineering subjects by students, faculty, and engineers in active practice. Registration required of all junior and senior students not registered in MEE 414A. *No credit*

MEE 417. INTERNAL COMBUSTION ENGINES: Combustion and energy release processes. Applications to spark and compression ignition, thermal jet, rocket, and gas turbine engines. Emphasis on air pollution problems caused by internal combustion engines. Idealized and actual cycles studied in preparation for laboratory testing of I. C. engines. Prerequisite: MEE 301 or permission of instructor. *3 sem. hrs.*

MEE 418. ADVANCED FLUID MECHANICS: Application of the basic thermodynamic and fluid motion laws to the solution of engineering problems in fluid mechanics. Use of differential and integral equations for internal and external flow of compressible fluids with friction and heat transfer. Isentropic flow; adiabatic flow; normal and oblique shocks; Prandtl-Meyer flow; Fanno and Rayleigh line flow. Prerequisites: MEE 308, MEE 315 or 316. *3 sem. hrs.*

MEE 420. HEATING AND AIR CONDITIONING: Theory and methods of maintaining comfortable industrial and residential environments. Psychrometrics; effects of solar radiation; heat transmission through solid boundaries and transparent materials; heating and cooling load calculations; sizing of equipment; energy conservation and management concepts. Corequisite: MEE 410 or permission of instructor. *3 sem. hrs.*

MEE 423L. MECHANICAL ENGINEERING LABORATORY: Three-hour laboratory session and three-hour out-of-class group session each week. Analysis, modeling, testing, and oral and written presentation of studies in power generation, heat transfer, and fluid dynamic systems. Prerequisites: MEE 302, 308, 340L, 410. *3 sem. hrs.*

MEE 426L. MECHANICAL ENGINEERING LABORATORY: Analysis, modeling, testing, and technical presentation of studies in power generation, heat transfer, thermodynamics fluid flow, and combinations thereof. Turbo-machinery, internal combustion engines, heat transfer and refrigeration systems, and fluid dynamic systems; aerodynamics, aero-optical measurements, and turbulence. Prerequisites: MEE 308, 340L, 410. *2 sem. hrs.*

MEE 427. MECHANICAL DESIGN I: Stress and deflection analysis of machine components; theories of failure; fatigue failure of metals; design and analysis of mechanical components such as spur gears, shafts, springs, fasteners. Prerequisites: EGM 303, MEE 321. Corequisite: MEE 427L. *3 sem. hrs.*

MEE 427L. MECHANICAL DESIGN LABORATORY I: Design projects applying principles covered in MEE 427. Solution of complex problems with emphasis on synthesis and design of mechanical systems. Corequisite: MEE 427. *1 sem. hr.*

MEE 428. MECHANICAL DESIGN II: Advanced topics in stress and deflection analysis; analysis and design of mechanical elements such as gears, journal and ball bearings, belts, brakes, and clutches; principles of fracture mechanics; failure analysis; machiery construction principles. Prerequisite: MEE 427. Corequisite: MEE 428L. *2 sem. hrs.*

MEE 428L. MECHANICAL DESIGN LABORATORY II: Projects related to principles covered in MEE 427 and 428, encompassing all aspects of a typical design project from development of a proposal to evaluation of the design. Corequisite: MEE 428. *1 sem. hr.*

MEE 435. FEEDBACK CONTROL SYSTEMS: Analyses of automatic feedback control systems using time domain solutions, Laplace transforms, block diagrams, transfer functions, characteristic functions, stability criteria, and control actions. System performance based on Nyquist, Bode, and root-locus with system compensation. Prerequisite: MEE 319. *3 sem. hrs.*

MEE 436. VEHICLE PERFORMANCE ANALYSIS: Ground, air, water, space vehicles. Development of force, moment, and kinematic equations. Advanced applications including stability, control, performance evaluations. Vehicle simulation. Analog computation. Prerequisite: MEE 308 or permission of instructor. *3 sem. hrs.*

MEE 499. SPECIAL PROBLEMS IN MECHANICAL ENGINEERING: Particular assignments to be arranged and approved by departmental chairperson. *1-6 sem. hrs.*

In addition to the courses listed above, students may select as undergraduate electives mechanical engineering (MEE) courses from the 500 series listed in the Graduate Issue of the Bulletin.

SERVICE (EGR, EGM, ISE) AND INTERDISCIPLINARY (ENI) COURSES FOR ENGINEERING

COURSES OF INSTRUCTION—EGR

EGR 103. INTRODUCTION TO ENGINEERING: Introductory-level course with emphasis on engineering problem definition, methods, and solution; engineering units and terminology; engineering career areas; and utilization of computers in engineering. *2 sem. hrs.*

EGR 320. SYSTEMS-DESIGN—HONORS: Systems-design experience to emphasize the basic problem-solving approach and philosophy of engineering for students of varied background. By permission only. *3 sem. hrs.*

EGR 399. PROFESSIONAL DEVELOPMENT: Development of students' self-concepts as professional engineers with strong personal career directions based on individual strengths, interests, and technical abilities. *0-3 sem. hrs.*

EGR 498. HONORS THESIS: Selection, design, investigation, and completion of an independent, original research study resulting in a document prepared for submission as a potential publication and a completed undergraduate thesis. Restricted to students in Honors Program. *3-6 sem. hrs.*

EGR 499. SPECIAL PROBLEMS IN ENGINEERING: Particular assignments to be arranged and approved by the dean of engineering. *1-6 sem. hrs.*

COURSES OF INSTRUCTION—EGM

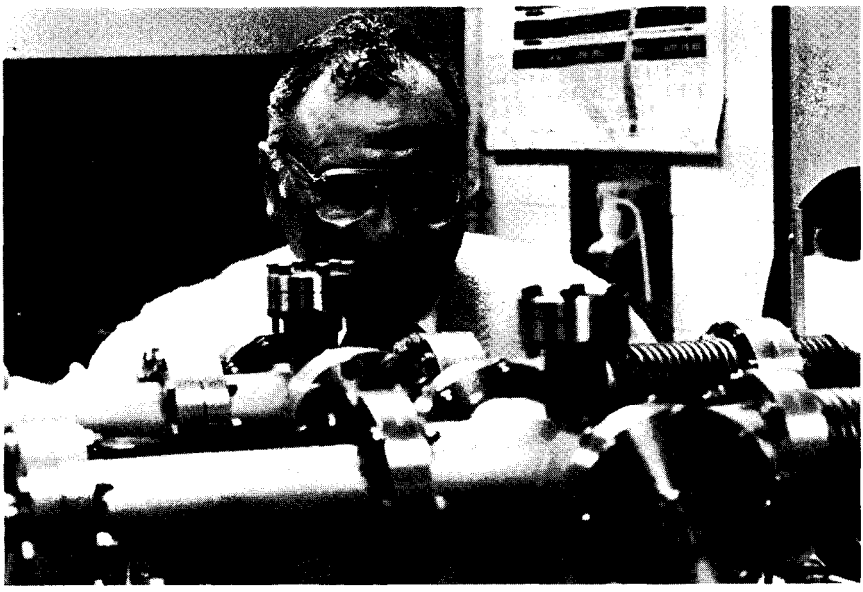
Engineering mechanics (EGM) courses are taught and administered by the Department of Civil Engineering and Engineering Mechanics.

EGM 101. STATICS: The principles of mechanics; force systems, free body diagrams, resultants and equilibrium, centroids and centers of gravity; application to trusses, frames, machines, and beams; friction; moments of inertia. Corequisite: MTH 119. *3 sem. hrs.*

EGM 301. DYNAMICS: Kinematics, including translation, rotation, plane motion, and relative motion; kinetics of particles and bodies by the methods of force-mass-acceleration, work-energy, and impulse-momentum. Prerequisite: EGM 101. *3 sem. hrs.*

EGM 303. STRENGTH OF MATERIALS: The study of stresses, strains, and deflections in tension, compression, shear, flexure, and torsion; shear and moment diagrams; analysis of stresses and strains at a point; Mohr's circle; analysis of columns. Prerequisite: EGM 101. Each term. *3 sem. hrs.*

EGM 304. ADVANCED STRENGTH OF MATERIALS: Stresses and strains at a point; shear center; unsymmetrical bending; curved beams; flat plates; torsion of noncircular bars; beams on elastic support; buckling. Prerequisite: EGM 303. First and second terms each year. *3 sem. hrs.*



COURSES OF INSTRUCTION—ISE

Industrial and systems engineering (ISE) courses are taught and administered by the Department of Engineering Management and Systems.

ISE 313. ENGINEERING LAW: Legal principles applied to engineering. *2 sem. hrs.*

ISE 369. PROBABILITY AND STATISTICS FOR ENGINEERS: Conceptual development of probability and statistics with engineering applications. Random variables, probability distributions, Bayes theorem, central limit theorem, population and sample moments, point and interval estimates, hypothesis testing, regression analysis. Prerequisite: MTH 218. *3 sem. hrs.*

ISE 401. ENGINEERING ECONOMY: Basic principles and techniques of economic analysis of engineering projects. Time value of money, short- and long-term investments, replacement analysis, depreciation methods, cost allocation, and measures of cost effectiveness. Self-paced instruction. Prerequisite: MTH 218. *1-2 sem. hrs.*

ISE 402. ECONOMIC DECISION ANALYSIS FOR ENGINEERS: Introduction to the models and methods of economic decision analysis as they relate to engineering decisions. Fundamental economic concepts, cost estimates, interest and time value of money, comparison of alternatives, before- and after-tax analysis, analysis of public activities, decision making under risk and uncertainty, break-even analysis, linear programming models. Prerequisite: MTH 218. *3 sem. hrs.*

ISE 421. RELIABILITY AND MAINTAINABILITY: Application of probability and statistical theory to engineering reliability design and analysis; reliability of components and assemblies; design of systems for reliability and maintainability. Prerequisites: MTH 368 or ISE 369; CPS 132. *3 sem. hrs.*

ISE 423. QUALITY ASSURANCE: Principles of statistical quality control. Application of attributes and variable acceptance sampling plans; control charts; design of quality control systems and procedures. Prerequisites: MTH 368 or ISE 369; CPS 132. *3 sem. hrs.*

ISE 428. DESIGN AND ANALYSIS OF ENGINEERING EXPERIMENTS: Application of statistical methods to engineering experimentation; analysis of experimental response through statistical methods. Prerequisites: MTH 368 or ISE 369; CPS 132. *3 sem. hrs.*

ISE 451. PRODUCTION AND INVENTORY PLANNING AND CONTROL: Analysis and design of systems of personnel and machines for production processes. Forecasting, scheduling, production and inventory control. Prerequisites: MTH 368 or ISE 369; CPS 132. *3 sem. hrs.*

ISE 452-453. OPERATIONS RESEARCH I AND II: Applications and elementary theory of selected topics such as linear programming, transportation and assignment problems, network analysis, game theory, nonlinear programming, queueing theory, and Markov processes. Prerequisites: MTH 368 or ISE 369; CPS 132. *3 sem. hrs. each*

ISE 455. PRINCIPLES OF SYSTEMS: Basic concepts of structure in dynamic systems; starting point for systems approach to dynamic systems in multidisciplinary courses in urban, ecological, corporate, or other social systems. Prerequisites: MTH 368 or ISE 369; CPS 132. *3 sem. hrs.*

ISE 499. SPECIAL PROBLEMS IN SYSTEMS: Particular assignments to be arranged and approved. *1-6 sem. hrs.*

COURSES OF INSTRUCTION—ENI

Information on engineering interdisciplinary (ENI) courses is available in the Office of the Dean of the School of Engineering.

ENI 310. SOCIETY AND TECHNOLOGY: For nonengineering students. The interaction of science, humanities, technology, and society. Study of current problems to which the interface between the liberal arts disciplines and the engineering disciplines may provide solutions. Interdisciplinary techniques for analyzing and decision making. No prerequisites. *3 sem. hrs.*

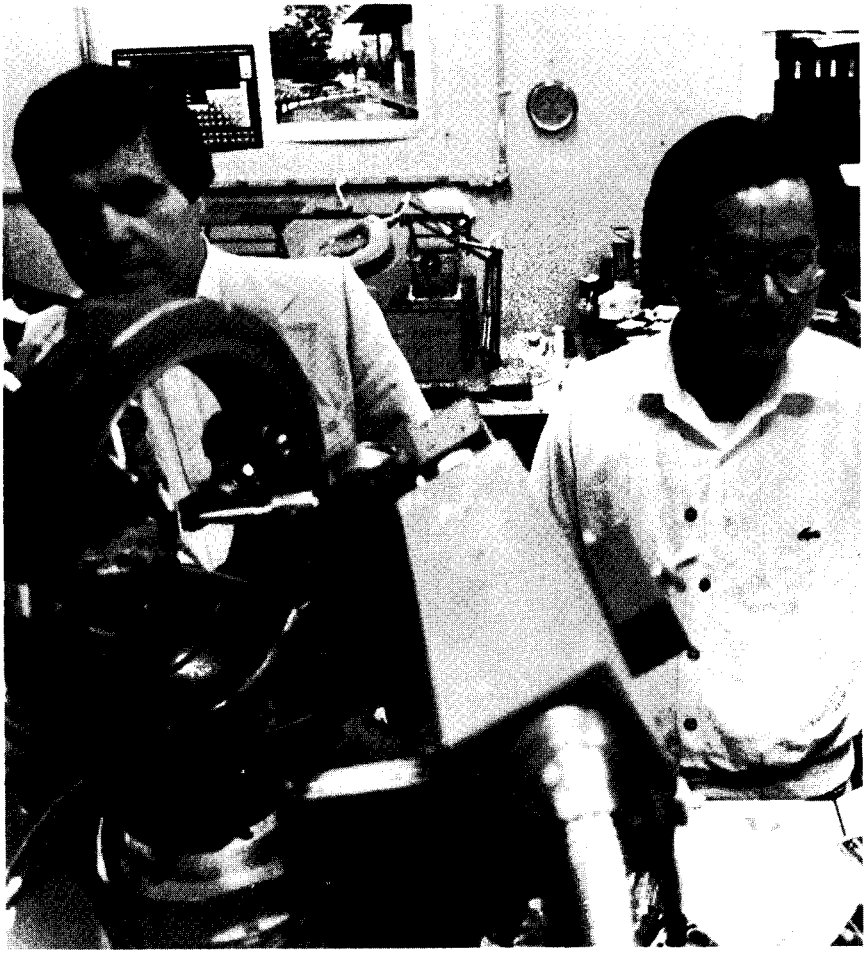
ENI 451. INTRODUCTION TO PUBLIC POLICY PLANNING: Introduction to public policy and program planning, the role of engineering in public policy formulation, systems approaches to complex decision making, introduction to interpretive structural modeling and its policy-oriented uses. *3 sem. hrs.*

ENI 455. SYSTEMS MODELING I: Introduction to the modeling of social systems, emphasizing feedback loops and their behavior; development of methods for understanding mechanisms underlying growth, stagnation, and cyclical fluctuations; formulation of models for industrial, economic, social, and ecological systems; laboratory digital simulation. *3 sem. hrs.*

ENI 456. SYSTEMS MODELING II: An individual or group project in guided research with emphasis on modeling of economic, industrial, urban, ecological, and world systems. *3 sem. hrs.*

ENGINEERING TECHNOLOGY

The Engineering Technology programs lead to the Bachelor of Science in Engineering Technology in any of several technical areas. The four-year programs emphasize the application of engineering principles and are designed to provide excellent preparation in the major field as well as sufficient breadth in both technical and nontechnical areas so that the graduate may work effectively with persons of varied educational backgrounds. The significant number of technical electives permits the student to explore technical areas other than the major and thus to become more versatile.



BIO-ENGINEERING TECHNOLOGY (BET)

Typically, graduates from the Bio-Engineering Technology Program engage in the definition, selection, and operational management of medical instrumentation and hardware. They often work with such equipment as X-ray machines, patient-monitoring devices, or electrocardiographs. To prepare effectively for this interdisciplinary field, the student pursues studies in human anatomy and physiology, mathematics, physics, and chemistry, as well as in the electronics and mechanical engineering technology.

PROGRAM—T1: BACHELOR OF SCIENCE WITH A MAJOR IN BIO-ENGINEERING TECHNOLOGY (BET)

Dept.	*No.*	*Course*	*1st Term*[1]	*2nd Term*
		Freshman Year		
CPT	125	Inorganic Chemistry	3-3-4	
EET	104	Introduction to Electronic Engineering Technology	3-0-3	
SET	152	Introduction to Engineering Technology	1-0-1	
ENG	101-102	College Composition I, II	3-0-3	3-0-3
SET	109, 111	Engineering Technology Mathematics I, II	4-0-4	3-0-3
SET	153	Technical Computation		1-0-1
EET	110	Electrical Circuits I		3-3-4
HST	101 or 102	History of Western Civilization		3-0-3
—	—	General education requirement[2]		3-0-3
			15	17
		Sophomore Year		
EET	111	Electrical Circuits II	3-3-4	
MCT	220	Statics and Dynamics	3-0-3	
BIO	151	Concepts of Biology I	3-0-3	
EDD	305-306	Human Anatomy and Physiology	3-0-3	3-0-3
SET	210-211	Engineering Technology Mathematics III, IV	3-0-3	3-0-3
BIO	—	Biology elective		3-0-3
EET	206	Electron Devices I		3-3-4
PHY	203	Modern Technical Physics		3-2-4
			16	17
		Junior Year		
SET	306	Engineering Technology Mathematics V	3-0-3	
SET	334	Technical Writing	2-0-2	
CPT	210	Organic Chemistry	3-0-3	
MCT	221	Strength of Materials	3-0-3	
SET	301-302	The Technological Society I, II	3-0-3	3-0-3
—	—	General education requirements[2]	3-0-3	3-0-3
CPS	144	FORTRAN		3-0-3
—	—	Technical electives		3-0-3
MCT	103L	Technical Drawing I		0-6-2
MCT	231	Fluid Mechanics		3-0-3
			17	17

		Senior Year		
EET	455	Biotechnology I	3-0-3	
MCT	400	Biomechanics	3-0-3	
SET	499	Seminar	1-0-1	
SPE	101	Fundamentals of Effective Speaking	3-0-3	
—	—	General education requirements[2]	3-0-3	6-0-6
—	—	Technical electives	3-0-3	6-0-6
IET	215	Organization and Management		3-0-3
			16	15

[1]For example, 3-0-3 means 3 class hrs., 0 lab. hrs., and 3 sem. hrs. of credit.

[2]See General Education Requirements, Chapter V. Some general education courses are specified in the program (e.g., PHY 203); others are to be chosen from the listing of approved courses. Consult advisor.

CHEMICAL PROCESS TECHNOLOGY (CPT)

Graduates of the Chemical Process Technology Program are suited for professional positions in process operations. The chemical process industries produce and distribute many key materials such as pharmaceuticals, petroleum products, paper, plastics, rubber, insecticides, fertilizers, and metals. Typical positions involve the supervision of production, the management of quality assurance, maintenance planning and control, or marketing and technical service. The program includes mathematics, basic and engineering sciences, process technology, computer programming, and general education courses. Topics in industrial management are taken as electives.

PROGRAM—T2: BACHELOR OF SCIENCE WITH A MAJOR IN CHEMICAL PROCESS TECHNOLOGY (CPT)

Dept.	*No.*	*Course*	*1st Term*[1]	*2nd Term*
		Freshman Year		
CPT	125	Inorganic Chemistry	3-3-4	
SET	152	Introduction to Engineering Technology	1-0-1	
MCT	103L	Technical Drawing I	0-6-2	
—	—	General education requirement[2]	3-0-3	
ENG	101-102	College Composition I, II	3-0-3	3-0-3
SET	109, 111	Engineering Technology Mathematics I, II	4-0-4	3-0-3
SET	153	Technical Computation		1-0-1
CPT	212	Quantitative Analysis		2-5-4
EET	201	Fundamentals of Electronic Technology		3-0-3
HST	101 or 102	History of Western Civilization		3-0-3
			17	17
		Sophomore Year		
MCT	220	Statics and Dynamics	3-0-3	
—	—	General education requirement[2]	3-0-3	
IET	215	Organization and Management	3-0-3	
CPT	210	Organic Chemistry	3-3-4	
SET	210-211	Engineering Technology Mathematics III, IV	3-0-3	3-0-3
MCT	231	Fluid Mechanics		3-0-3
MCT	232	Thermodynamics		3-0-3
PHY	203	Modern Technical Physics		3-2-4
SPE	101	Fundamentals of Effective Speaking		3-0-3
			16	16
		Junior Year		
SET	306	Engineering Technology Mathematics V	3-0-3	
CPT	313	Topics in Physical Chemistry	3-0-3	
CPT	316	Analytical Instrumentation	3-3-4	
CPS	144	FORTRAN	3-0-3	
SET	301-302	The Technological Society I, II	3-0-3	3-0-3
SET	334	Technical Writing		2-0-2
CPT	305	Materials Science		3-0-3
MTI	221	Strength of Materials		3-0-3
—	—	General education requirement[2]		3-0-3
—	—	Technical elective		3-0-3
			16	17

		Senior Year		
CPT	215	The Chemical Industry	3-0-3	
SET	499	Seminar	1-0-1	
—	—	Technical electives	6-0-6	6-0-6
—	—	General education requirements[2]	3-0-3	3-0-3
CPT	401-402	Process Operations I, II	3-3-4	3-3-4
CPT	420	Instrumentation and Control		3-0-3
			17	16

[1]For example, 3-0-3 means 3 class hrs., 0 lab. hrs., and 3 sem. hrs. of credit.

[2]See General Education Requirements, Chapter V. Some general education courses are specified in the program (e.g., PHY 203); others are to be chosen from the listing of approved courses.

FACULTY

David I. Gross, *Chairperson*
Professor: C. Shaw
Assistant Professor: Gross
Lecturer: Anduze
Part-time Instructors: Hughes, Nelson, Richardson, Snyder, Woods

COURSES OF INSTRUCTION

*CPT 122. GENERAL CHEMISTRY: Survey of the general principles of chemistry including elements and their simpler compounds. Emphasis on topics of importance in industrial activities. *3 sem. hrs.*

CPT 122L. GENERAL CHEMISTRY LABORATORY: To accompany CPT 122. Three hours of laboratory a week. *1 sem. hr.*

CPT 125. INORGANIC CHEMISTRY: Comprehensive treatment of the fundamentals of general chemistry, with application to the essential groups of elements in the periodic table. *3 sem. hrs.*

CPT 125L. INORGANIC CHEMISTRY LABORATORY: Semi-micro qualitative analysis to accompany CPT 125. Three hours of laboratory a week. *1 sem. hr.*

CPT 210. ORGANIC CHEMISTRY: Study of aliphatic, aromatic, and heterocyclic compounds, including reactions, properties, and applications. Prerequisite: CPT 122 or 125. *3 sem. hrs.*

CPT 210L. ORGANIC CHEMISTRY LABORATORY: To accompany CPT 210. Three hours of laboratory a week. *1 sem. hr.*

CPT 212. QUANTITATIVE ANALYSIS: Fundamental principles and techniques involved in exact analysis. Gravimetric, volumetric, and colorimetric analyses; techniques such as weighings and separations. Prerequisite: CPT 122 or 125. *2 sem. hrs.*

CPT 212L. QUANTITATIVE ANALYSIS LABORATORY: To accompany CPT 212. Five hours of laboratory a week. *2 sem. hrs.*

*CPT 214. GENERAL CHEMISTRY WITH CASE STUDIES: Survey of the principles of chemistry including elements, their simpler compounds, and molecular phenomena. Includes a sequence of case studies of industrial applications, their economic and environmental effects, and their impact on personal, social and environmental values. *4 sem. hrs.*

*CPT 215. THE CHEMICAL INDUSTRY—TECHNOLOGY AND ISSUES: Broad survey of the chemical process industries stressing their underlying chemistry, unit operations, and generation of by-products. Environmental concerns and key economic factors are examined as issues bearing on individual values and the ethics of industrial decisions. Prerequisite: General chemistry. *3 sem. hrs.*

CPT 305. MATERIALS SCIENCE: Introduction to engineering materials and their properties and behavior. Emphasis on physical metallurgy, metals, alloys. Some coverage of ceramics, cements and aggregates, wood, glasses, and plastics. *3 sem. hrs.*

CPT 313. TOPICS IN PHYSICAL CHEMISTRY: Consideration of several topics pertinent to physical chemistry: thermodynamics, states of matter, solutions, electrochemistry, nuclear chemistry, absorption. Prerequisite: CPT 122 or 125. *3 sem. hrs.*

CPT 316. ANALYTICAL INSTRUMENTATION: Study of analytical instrumentation commonly available to research laboratories and process industries. Includes underlying physical principles, equipment operations, and the interpretation of spectra and other data. Prerequisites: CPT 210, 212. *3 sem. hrs.*

CPT 316L. ANALYTICAL INSTRUMENTATION LABORATORY: To accompany CPT 316. Three hours of laboratory a week. *1 sem. hr.*

CPT 400. SELECTED CHEMICAL TOPICS: Investigation and discussion of current technical topics in chemical technology. May be taken more than once. Prerequisite: Permission of department chairperson. *3 sem. hrs.*

CPT 401. PROCESS OPERATIONS I: Study and application of the engineering principles and methods which underlie chemical process operations. Material and energy balances, fluid flow, heat transfer, evaporation, drying, and filtration. Prerequisites: MCT 231, 342, CPT 313.

CPT 402. PROCESS OPERATIONS II: Continuation of CPT 401, emphasizing mass transfer operations. Humidification, distillation, liquid-liquid extraction, gas scrubbing, and adsorption. Prerequisite: CPT 401. *3 sem. hrs.*

CPT 401L, 402L. PROCESS OPERATIONS LABORATORY I, II: To accompany CPT 401, 402. Three hours of laboratory a week. *1 sem. hr. each*

CPT 420. INSTRUMENTATION AND CONTROL: Survey of devices for detecting and signaling the state of process control variables. Principles and methods of automatic process control. Control modes, controllers, feedback and feed forward operations, tuning methods, and data acquisition systems. Includes tuning exercises using computer-simulated processes. *3 sem. hrs.*

CPT 437. INTRODUCTION TO NUCLEAR TECHNOLOGY: Selected principles of physics and engineering to include nuclear phenomena, radioactivity, reactor thermodynamics, and heat power generation. Includes studies of reactor configurations, materials, fuels, shielding, safety, and security. Prerequisite: MCT 342. *3 sem. hrs.*

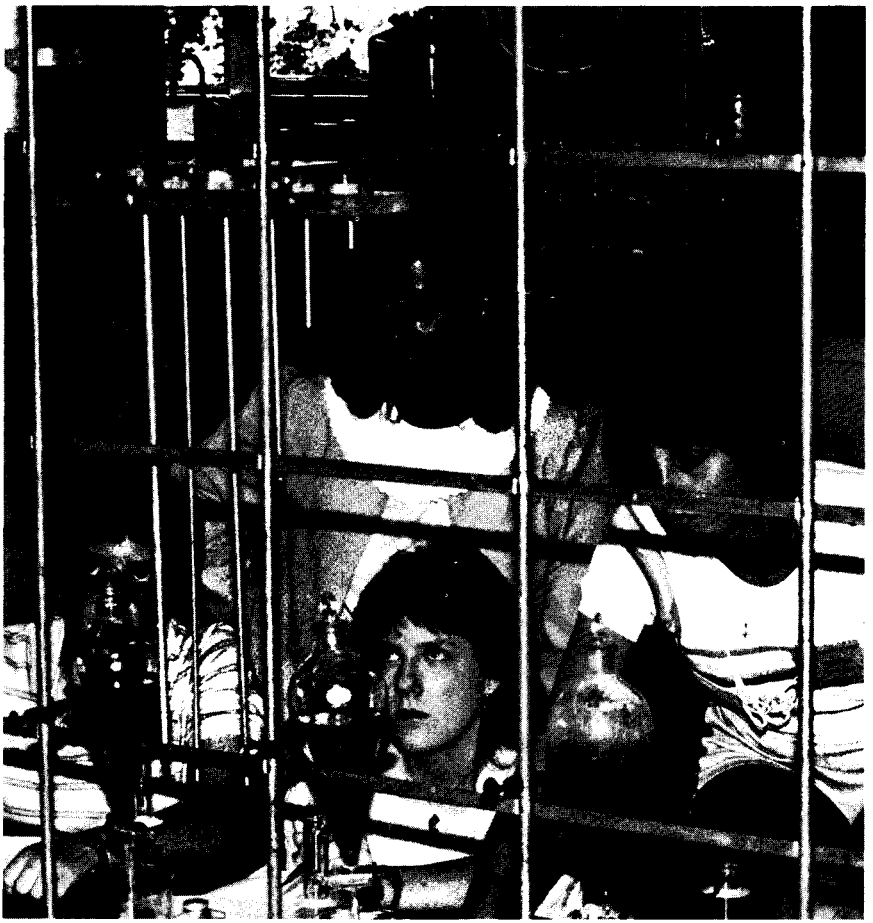
CPT 452. POLLUTION CONTROL I: Study of air pollution, its origins and effects, and methods of pollution abatement. Emphasis on control mechanisms, industrial control equipment, and operations. Prerequisite: CPT 122. *3 sem. hrs.*

CPT 453. POLLUTION CONTROL II: Study of water pollution, its occurrence, effects, and control provisions. Examination of municipal water and wastewater practices; case study of an industrial waste point source. Prerequisites: CPT 122, MCT 231. *3 sem. hrs.*

CPT 452L, 453L. POLLUTION CONTROL LABORATORIES I, II: A series of plant trips and laboratory sessions to demonstrate industrial practices in the control of air and water pollution. Trip reports and analytical assessments. Three hours of laboratory a week. Corequisite: Enrollment in corresponding lecture. *1 sem. hr. each*

CPT 462. POLYMERS: Introduction to addition, condensation, cellulosic and natural polymers, their production, processing, properties, and use. Extensive examination of plastics manufacturing operations including casting, extrusion, and composite methods. Prerequisite: CPT 122. *3 sem. hrs.*

*General education course. See Chapter V.



ELECTRONIC ENGINEERING TECHNOLOGY (EET)

The Department of Electronic Engineering Technology prepares students for service as engineering technologists in industry. Emphasis is on the fundamentals of circuit theory, electronics, digital electronics, measurements, and communications and on mathematics, physics, and chemistry. The graduate is prepared to perform basic designs in electronics, digital electronics, and communications or to serve in engineering sales of electronic systems and supervision for electrical or electronic manufacturers.

This program is accredited by The Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

PROGRAM—T3: BACHELOR OF SCIENCE WITH A MAJOR IN ELECTRONIC ENGINEERING TECHNOLOGY (EET)

Dept.	*No.*	*Course*	*1st Term*[1]	*2nd Term*
		Freshman Year		
EET	104	Introduction to Electronic Engineering Technology	3-0-3	
SET	152	Introduction to Engineering Technology	1-0-1	
SET	153	Technical Computation	1-0-1	
ENG	101-102	College Composition I, II	3-0-3	3-0-3
—	—	General education requirements[2]	3-0-3	3-0-3
SET	109, 111	Engineering Technology Mathematics I, II	4-0-4	3-0-3
CPT	122	General Chemistry		3-3-4
EET	110	Electrical Circuits I		3-3-4
			15	17
		Sophomore Year		
CPS	144	FORTRAN	3-0-3	
EET	111	Electrical Circuits II	3-3-4	
EET	207	Electrical Measurements	3-3-4	
MCT	220	Statics and Dynamics	3-0-3	
EET	300	Electronic Engineering Technology Seminar	1-0-0	1-0-0
SET	210-211	Engineering Technology Mathematics III, IV	3-0-3	3-0-3
EET	206	Electron Devices I		3-3-4
EET	208	Cathode Ray Oscilloscope		1-0-1
EET	223	Schematics and Diagrams		1-0-1
EET	224	Digital Computer Fundamentals		3-3-4
PHY	203	Modern Technical Physics		3-2-4
			17	17
		Junior Year		
EET	306	Electron Devices II	3-3-4	
EET	357	Microprocessors	3-0-3	
SET	306	Engineering Technology Mathematics V	3-0-3	
HST	101 or 102	History of Western Civilization	3-0-3	
SPE	101	Fundamentals of Effective Speaking	3-0-3	
EET	300	Electronic Engineering Technology Seminar	1-0-0	1-0-0
EET	328	Electronic Communications		3-3-4
EET	340L	Electronic Instrumentation		0-3-1
EET	—	Electronic engineering technology elective		3-0-3
IET	215	Organization and Management		3-0-3
SET	301	The Technological Society I		3-0-3
—	—	Technical elective		3-0-3
			16	17

		Senior Year		
EET	427	Pulse Circuit Fundamentals	3-3-4	
EET	—	Electronic engineering technology elective	3-0-3	
SET	334	Technical Writing	2-0-2	
SET	499	Seminar	1-0-1	
EET	300	Electronic Engineering Technology Seminar	1-0-0	1-0-0
—	—	General education requirements[2]	3-0-3	6-0-6
—	—	Technical electives	3-0-3	6-0-6
EET	430	Special Electronic Projects		1-0-1
SET	302	The Technological Society II		3-0-3
			16	16

[1]For example, 3-0-3 means 3 class hrs., 0 lab. hrs., and 3 sem. hrs. of credit.

[2]See General Education Requirements, Chapter V. Some general education courses are specified in the program (e. g., PHY 203); others are to be chosen from the listing of approved courses.

FACULTY

Richard R. Hazen, *Chairperson*
Professors: Farren, Hanneman, Hazen, Iselin, Rooney
Instructor: Ismail

COURSES OF INSTRUCTION

EET 104. INTRODUCTION TO ELECTRONIC ENGINEERING TECHNOLOGY: Topics in electronic engineering technology including circuits, electron devices, measurements, computers, power, and machinery. Corequisite: SET 109. *3 sem. hrs.*

EET 110. ELECTRICAL CIRCUITS I: Practical concepts of DC circuits: resistance, resistivity, power, and magnetism. Circuit calculations using basic formulas. Prerequisite: EET 104. Corequisite: SET 111. *3 sem. hrs.*

EET 110L. ELECTRICAL CIRCUITS I LABORATORY: To accompany EET 110. Three hours of laboratory a week. *1 sem. hr.*

EET 111. ELECTRICAL CIRCUITS II: Practical concepts of AC circuits: inductance, capacitance, reactance, impedance, phase, power, and power factor. Circuit calculations utilizing vectors and complex quantities. Prerequisite: EET 110. Corequisite: SET 210. *3 sem. hrs.*

EET 111L. ELECTRICAL CIRCUITS II LABORATORY: To accompany EET 111. Three hours of laboratory a week. *1 sem. hr.*

EET 201. FUNDAMENTALS OF ELECTRONIC TECHNOLOGY: Selected topics from DC and AC circuits, measurements, and electron devices for non-electronic technology students. Corequisite: SET 110. *3 sem. hrs.*

EET 206. ELECTRON DEVICES I: Fundamentals of transistors (bipolar and field effect), vacuum tubes, gas tubes, semi-conductor diodes, and their associated circuits. Prerequisite: EET 111. Corequisite: SET 211. *3 sem. hrs.*

EET 206L. ELECTRON DEVICES I LABORATORY: To accompany EET 206. Three hours of laboratory a week. *1 sem. hr.*

EET 207. ELECTRICAL MEASUREMENTS: Application of direct and alternating current circuit analysis to electrical measuring methods and techniques with emphasis on industrial problems and considerations. Corequisite: EET 111. *3 sem. hrs.*

EET 207L. ELECTRICAL MEASUREMENTS LABORATORY: To accompany EET 207. Three hours of laboratory a week involving circuit design for electrical measurements. *1 sem. hr.*

EET 208. CATHODE RAY OSCILLOSCOPE: To study the design, operation and application of the cathode ray oscilloscope. Prerequisite: EET 111. *1 sem. hr.*

EET 210. ELECTRICAL MACHINERY: Fundamentals of the construction and application of direct current and alternating current machines and apparatus to industrial uses. Prerequisite: EET 111. *3 sem. hrs.*

EET 210L. ELECTRICAL MACHINERY LABORATORY: To accompany EET 210. Three hours of laboratory a week. *1 sem. hr.*

EET 211. MOTOR CONTROL: Industrial uses of standard controllers for electric motors. Prerequisite: EET 210. *3 sem. hrs.*

EET 211L. MOTOR CONTROL LABORATORY: To accompany EET 211. Three hours of laboratory a week. *1 sem. hr.*

EET 223. SCHEMATICS AND DIAGRAMS: Procedures, standards, and symbols used on electronic circuit diagrams. *1 sem. hr.*

EET 224. DIGITAL COMPUTER FUNDAMENTALS: Fundamental theory and techniques of electronic data processing to include binary arithmetic, switching theory (Boolean algebra), and basic circuitry (gates, adders, registers, and memory). Corequisite: EET 206. *3 sem. hrs.*

EET 224L. DIGITAL COMPUTER FUNDAMENTALS LABORATORY: To accompany EET 224. Three hours of laboratory a week. *1 sem. hr.*

EET 226. INTRODUCTION TO ANALOG COMPUTERS AND SERVOMECHANISMS: Fundamentals and design of synchros and related error detectors, rate generators, magnetic amplifiers, and friction dampers. Prerequisite: EET 206. *3 sem. hrs.*

EET 226L. ANALOG COMPUTER AND SERVOMECHANISM LABORATORY: To accompany EET 226. Three hours of laboratory a week. *1 sem. hr.*

EET 300. ELECTRONIC ENGINEERING TECHNOLOGY SEMINAR: Exchange of ideas in electronics, to include student lectures, guest lectures, and industrial visitations. Required of all EET students who are enrolled in or have taken EET 111. *No credit*

EET 306. ELECTRON DEVICES II: Fundamentals of integrated circuits, operational amplifiers, transistors, photoelectric devices, silicon-controlled rectifiers, and their associated circuits. Prerequisite: EET 206. Corequisite: SET 306. *3 sem. hrs.*

EET 306L. ELECTRON DEVICES II LABORATORY: To accompany EET 306. Three hours of laboratory a week. *1 sem. hr.*

EET 328. ELECTRONIC COMMUNICATIONS: Principles of operation of filters, modulators, demodulators, and converters. Corequisite: EET 306. *3 sem. hrs.*

EET 328L. ELECTRONIC COMMUNICATIONS LABORATORY: To accompany EET 328. Three hours of laboratory a week. *1 sem. hr.*

EET 340L. ELECTRONIC INSTRUMENTATION: Three hours of laboratory a week to provide a knowledge of the operation of and the interpretation of data taken from complex electronic measurement and test equipment. Prerequisite: EET 111. *1 sem. hr.*

EET 357. MICROPROCESSORS I: Study of microprocessor architecture, hardware, software, and application. Prerequisite: EET 224. *3 sem. hrs.*

EET 400. SELECTED ELECTRONIC TOPICS: Investigation and discussion of current technical topics in electronic engineering technology. May be taken more than once. Prerequisite: Permission of department chairperson. *1-4 sem. hrs.*

EET 427. PULSE CIRCUITS: Selected topics relating to radar, television, and computer circuits including integrators, differentiators, blocking oscillators, multivibrators, and time-base generators utilizing Laplace transform analysis. Prerequisites: EET 224, SET 306. *3 sem. hrs.*

EET 427L. PULSE CIRCUITS LABORATORY: To accompany EET 427. Three hours of laboratory a week. *1 sem. hr.*

EET 430. SPECIAL ELECTRICAL PROJECTS: Laboratory work and reading associated with a phase of electricity selected by the student and approved by department chairperson. Prerequisite: EET 206. *1 sem. hr.*

EET 450. MICROELECTRONICS: Study of the principles, design techniques, and fabrication processes utilized in the construction of thick film, thin film, and integrated circuits. Prerequisite: EET 206. *3 sem. hrs.*

EET 451. ADVANCED INSTRUMENTATION: Unstructured laboratory study of modern instrumentation. Independent projects including CRT system, integrating DVM, acoustical equipment, and advanced standards. Prerequisites: EET 207, 208. *2-3 sem. hrs.*

EET 452. FEEDBACK CONTROLS: Study of signal flow, circuit stability. Nyquist criteria, Bode plots, oscillators, amplifiers, and electromechanical devices. Prerequisite: EET 306. *3 sem. hrs.*

EET 453. ANTENNAS: Study of basic antenna types and their application to arrays and other systems. Prerequisite: EET 328. *3 sem. hrs.*

EET 454. ENVIRONMENTAL NOISE CONTROL: Study of noise, noise measurement, physiological effects of noise, federal regulations, and design criteria for noise reduction. Prerequisite: Junior status. *3 sem. hrs.*

EET 455. BIOTECHNOLOGY I: An engineering technology approach to the medical field including resistance analogy, storage analogy, and biological systems analysis. Student participation at local hospitals. Prerequisite: EET 206. *3 sem. hrs.*

EET 456. BIOTECHNOLOGY II: A continution of Biotechnology I with emphasis on biomedical instrumentation. Prerequisite: EET 455. *3 sem. hrs.*

EET 458. MICROPROCESSORS II: Advanced studies in microprocessor software design, mass storage systems, and applications. Prerequisites: CPS 144, EET 357. *3 sem. hrs.*

EET 459. MICROPROCESSOR SYSTEMS DESIGN: Introduction to industrial design procedures for microprocessor-based control systems. Emphasis on the integration of microcomputer hardware and software. Prerequisite: EET 458. *3 sem. hrs.*

EET 460. SIXTEEN-BIT MICROPROCESSORS: Study of a sixteen-bit microprocessor family and its application to systems. Applications include single and multiprocessor design. Prerequisite: EET 357. *3 sem. hrs.*

EET 461. POWER DISTRIBUTION AND CONTROL: Study of power distribution systems including components, basic operation, and characteristics. Emphasis on the generation of electric power, its transmission and control. Prerequisite: EET 111 or 201. *3 sem. hrs.*

EET 462. TELECOMMUNICATIONS TECHNOLOGY: Study of the theoretical and practical electronic structures involved in the telecommunications industry. Applications to data transmission, satellite communications, telephony, and television. Prerequisites: EET 328, 328L. *3 sem. hrs.*

ENVIRONMENTAL ENGINEERING TECHNOLOGY (EVT)

Graduates of the Environmental Engineering Technology Program are prepared for responsibilities in both the private and public sectors wherein the effects and control of pollution are of major concern. Typical professional positions include the oversight of waste treatment operations, the supervision of pollution abatement programs, and the control of regulatory implementation. The study program includes mathematics, basic and engineering sciences, and pollution control technology.

PROGRAM—T4: BACHELOR OF SCIENCE WITH A MAJOR IN ENVIRONMENTAL ENGINEERING TECHNOLOGY (EVT)

Dept.	*No.*	*Course*	*1st Term*[1]	*2nd Term*
		Freshman Year		
CPT	125	Inorganic Chemistry	3-3-4	
SET	152	Introduction to Engineering Technology	1-0-1	
MCT	103L	Technical Drawing	0-6-2	
—	—	General education requirement[2]	3-0-3	
ENG	101-102	College Composition I, II	3-0-3	3-0-3
SET	109, 111	Engineering Technology Mathematics I, II	4-0-4	3-0-3
SET	153	Technical Computation		1-0-1
CPT	212	Quantitative Analysis		2-5-4
EET	201	Fundamentals of Electronic Technology		3-0-3
HST	101 or 102	History of Western Civilization		3-0-3
			17	17
		Sophomore Year		
MCT	220	Statics and Dynamics	3-0-3	
—	—	General education requirement[2]	3-0-3	
BIO	151	Concepts of Biology I	3-0-3	
CPT	210	Organic Chemistry	3-3-4	
SET	210-211	Engineering Technology Mathematics III, IV	3-0-3	3-0-3
BIO	350	Applied Microbiology		3-0-3
MCT	231	Fluid Mechanics		3-0-3
PHY	203	Modern Technical Physics		3-2-4
SPE	101	Fundamentals of Effective Speaking		3-0-3
			16	16
		Junior Year		
SET	306	Engineering Technology Mathematics V	3-0-3	
CPT	316	Analytical Instrumentation	3-3-4	
IET	215	Organization and Management	3-0-3	
MCT	342	Thermodynamics	3-0-3	
SET	301-302	The Technological Society I, II	3-0-3	3-0-3
SET	334	Technical Writing		2-0-2
GEO	218	Engineering Geology		3-0-3
CPS	144	FORTRAN		3-0-3
—	—	Technical elective		3-0-3
—	—	General education requirement[2]		3-0-3
			16	17

		Senior Year		
EET	454	Environmental Noise Control	3-0-3	
SET	499	Seminar	1-0-1	
CPT	215	The Chemical Industry	3-0-3	
CPT	452-453	Pollution Control I, II	3-3-4	3-3-4
—	—	Technical electives	3-0-3	6-0-6
—	—	General education requirements[2]	3-0-3	3-0-3
CPT	420	Instrumentation and Control		3-0-3
			17	16

[1]For example, 3-0-3 means 3 class hrs., 0 lab. hrs., and 3 sem. hrs. of credit.

[2]See General Education Requirements, Chapter V. Some general education courses are specified in the program (e.g., PHY 203); others are to be chosen from the listing of approved courses.

INDUSTRIAL ENGINEERING TECHNOLOGY (IET)

The Industrial Engineering Technology Program has as its objective providing specialized education to prepare students for management and technical staff positions in such areas as manufacturing, health care, banking, transportation, food service, and government. They may be involved in the economic selection and location of equipment, the planning of work methods and expected output, and the scheduling and controlling of the flow of materials. The curriculum emphasizes courses in time and motion study, production planning and control, facilities layout, economic analysis, statistical quality control, labor and wage administration, and mathematical decision making.

This program is accredited by The Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

PROGRAM—T5: BACHELOR OF SCIENCE WITH A MAJOR IN INDUSTRIAL ENGINEERING TECHNOLOGY (IET)

Dept.	*No.*	*Course*	*1st Term*[1]	*2nd Term*
		Freshman Year		
SET	152	Introduction to Engineering Technology	1-0-1	
IET	104	Industrial Materials and Processes	3-0-3	
MCT	103L	Technical Drawing I	0-6-2	
SET	109, 111	Engineering Technology Mathematics I, II	4-0-4	3-0-3
ENG	101-102	College Composition I, II	3-0-3	3-0-3
—	—	General education requirements[2]	3-0-3	3-0-3
IET	108	Production Methods and Control		3-0-3
IET	215	Organization and Management		3-0-3
SET	153	Technical Computation		1-0-1
			16	16
		Sophomore Year		
IET	225	Elements of Cost Control	3-0-3	
MCT	108L	Manufacturing Processes Laboratory	0-3-1	
MCT	220	Statics and Dynamics	3-0-3	
CPS	144	FORTRAN	3-0-3	
SPE	101	Fundamentals of Effective Speaking	3-0-3	
SET	210-211	Engineering Technology Mathematics III, IV	3-0-3	3-0-3
EET	201	Fundamentals of Electronic Technology		3-0-3
IET	230	Motion and Time Study I		2-3-3
MCT	206L	Dimensional Measurements		0-3-1
CPT	122	General Chemistry		3-3-4
HST	101 or 102	History of Western Civilization		3-0-3
			16	17
		Junior Year		
IET	316	Quantitative Methods in Industrial Engineering Technology	3-0-3	
IET	317	Industrial Economic Analysis	3-0-3	
IET	331	Motion and Time Study II	2-3-3	
MCT	313	Industrial Mechanisms	3-0-3	
SET	334	Technical Writing	2-0-2	
—	—	Technical elective	3-0-3	

IET	318	Statistical Quality Control		3-0-3
IET	418	Cost Estimating		3-0-3
SET	301	The Technological Society I		3-0-3
PHY	203	Modern Technical Physics		3-2-4
—	—	General education requirement[2]		3-0-3
			17	16
		Senior Year		
IET	420	Industrial and Environmental Safety	3-0-3	
IET	432	Plant Layout	2-3-3	
SET	499	Seminar	1-0-1	
—	—	General education requirements[2]	3-0-3	3-0-3
—	—	Technical electives	6-0-6	3-0-3
IET	405	Labor and Wage Administration		3-0-3
IET	415	Industrial Engineering Technology Seminar		3-0-3
SET	302	The Technological Society II		3-0-3
			16	15

[1]For example, 3-0-3 means 3 class hrs., 0 lab. hrs., and 3 sem. hrs. of credit.

[2]See General Education Requirements, Chapter V. Some general education courses are specified in the program (e.g., PHY 203); others are to be chosen from the listing of approved courses.

FACULTY

James F. Courtright, *Director*
Professor: McGraw
Associate Professor: Courtright
Assistant Professor: Summers

COURSES OF INSTRUCTION

IET 104. INDUSTRIAL MATERIALS AND PROCESSES: Study of modern industrial materials with emphasis on their chemical and physical properties and methods by which they may be processed. *3 sem. hrs.*

IET 108. PRODUCTION METHODS AND CONTROL: Principles and techniques of production; current practices in production planning, routing, and scheduling; forecasting techniques, materials requirements planning, and just-in-time systems. *3 sem. hrs.*

IET 215. ORGANIZATION AND MANAGEMENT: Study of the structure of industrial and service organizations; the responsibilities and duties of a manager or supervisor in developing an effective production team. *3 sem. hrs.*

IET 225. ELEMENTS OF COST CONTROL: Survey of the methods of breakdown and cost analysis of labor, material, and overhead used in manufacturing organizations. *3 sem. hrs.*

IET 230. MOTION AND TIME STUDY I: Fundamentals of work simplification and motion economy using the techniques of motion and time study for the development of effective methods of production. Prerequisite: SET 210. *2 sem. hrs.*

IET 230L. MOTION AND TIME STUDY LABORATORY I: To accompany IET 230. Three hours of laboratory a week. *1 sem. hr.*

IET 316. QUANTITATIVE METHODS IN INDUSTRIAL ENGINEERING TECHNOLOGY: Introduction to the application of mathematics to decision making in industry. Probability, linear programming, decision analysis, queueing theory, and simulation. Prerequisite: SET 210. *3 sem. hrs.*

IET 317. INDUSTRIAL ECONOMIC ANALYSIS: Introduction to economic investment in equipment, buildings, and projects including a study of compound interest and depreciation. Prerequisite: SET 210. *3 sem. hrs.*

IET 318. STATISTICAL QUALITY CONTROL: Introduction to the techniques of industrial process control using statistical methods. Prerequisite: SET 210. *3 sem. hrs.*

IET 331. MOTION AND TIME STUDY II: Study of techniques in work measurement and in setting time standards, including stop-watch time study and work sampling. Introduction to predetermined time systems and standard data. Prerequisite: IET 230. *2 sem. hrs.*

IET 331L. MOTION AND TIME STUDY LABORATORY II: To accompany IET 331. Three hours of laboratory a week. *1 sem. hr.*

IET 400. SELECTED INDUSTRIAL TOPICS: Investigation and discussion of current technical topics in industrial engineering technology. May be taken more than once. Prerequisite: Permission of program director. *1-4 sem. hrs.*

IET 405. LABOR AND WAGE ADMINISTRATION: Brief history of labor unionism and labor legislation. Survey of collective bargaining contracts, grievances, and arbitration. Wage administration including job evaluation, wage structures, wage incentives, and employee evaluation. *3 sem. hrs.*

IET 415. INDUSTRIAL ENGINEERING TECHNOLOGY SEMINAR: Summary of the most commonly used tools to solve manufacturing production problems. Prerequisite: IET senior status. *3 sem. hrs.*

IET 418. COST ESTIMATING: Study of the fundamentals involved in cost estimating for manufacturing plants, the construction industry, and special projects. Prerequisite: SET 210. *3 sem. hrs.*

IET 420. INDUSTRIAL AND ENVIRONMENTAL SAFETY: Study of the OSHA regulations as they apply to industry and the environment. Study and review of life safety codes. *3 sem. hrs.*

IET 432. PLANT LAYOUT: Study of the economical arrangement of stock, machines, and aisles for efficient material handling and production. Prerequisites: IET 108, MCT 103L. *2 sem. hrs.*

IET 432L. PLANT LAYOUT LABORATORY: To accompany IET 432. Three hours of laboratory a week. *1 sem. hr.*

MECHANICAL ENGINEERING TECHNOLOGY (MCT)

The Mechanical Engineering Technology Program is designed to give the student a practical knowledge of the fundamental principles of mechanical engineering technology as they are applied in industrial and scientific endeavor. Emphasis is on applied mechanics, strength of materials, mechanisms, thermodynamics, fluid mechanics, fluid power, machine design, and design for manufacturing, and on basic courses such as technical drawing, physics, mathematics, and chemistry. Career opportunities are in mechanical design, product development, design of processes and systems, manufacturing engineering, technical sales, field service, fluid power and controls, supervision, and management.

This program is accredited by The Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

PROGRAM—T6: BACHELOR OF SCIENCE WITH A MAJOR IN MECHANICAL ENGINEERING TECHNOLOGY (MCT)

Dept.	*No.*	*Course*	*1st Term*[1]	*2nd Term*
		Freshman Year		
SET	152	Introduction to Engineering Technology	1-0-1	
IET	104	Industrial Materials and Processes	3-0-3	
—	—	General education requirements[2]	3-0-3	3-0-3
ENG	101-102	College Composition I, II	3-0-3	3-0-3
SET	109, 111	Engineering Technology Mathematics I, II	4-0-4	3-0-3
MCT	103L-104L	Technical Drawing I, II	0-6-2	0-6-2
MCT	108L	Manufacturing Processes Laboratory		0-3-1
SET	153	Technical Computation		1-0-1
IET	215	Organization and Management		3-0-3
			16	16
		Sophomore Year		
MCT	206L	Dimensional Measurements	0-3-1	
MCT	215	Statics	3-0-3	
EET	201	Fundamentals of Electronic Technology	3-0-3	
CPS	144	FORTRAN	3-0-3	
HST	101 or 102	History of Western Civilization	3-0-3	
SET	210-211	Engineering Technology Mathematics III, IV	3-0-3	3-0-3
SET	334	Technical Writing		2-0-2
MCT	217	Dynamics		3-0-3
MCT	221	Strength of Materials		3-0-3
MCT	231	Fluid Mechanics		3-0-3
MCT	332	Design for Manufacturing		2-0-2
			16	16
		Junior Year		
CPT	122	General Chemistry	3-3-4	
SET	306	Engineering Technology Mathematics V	3-0-3	
MCT	313	Industrial Mechanisms	3-0-3	
MCT	336	Fluid Power	3-3-4	
MCT	342	Thermodynamics	3-0-3	
MCT	330	Design of Machine Elements		3-0-3
MCT	333L	Measurements II		0-3-1
PHY	203	Modern Technical Physics		3-2-4
SPE	101	Fundamentals of Effective Speaking		3-0-3
—	—	Technical elective		3-0-3
—	—	General education requirement[2]		3-0-3
			17	17

		Senior Year		
MCT	435	Mechanical Design	1-0-1	
SET	499	Seminar	1-0-1	
SET	301-302	The Technological Society I, II	3-0-3	3-0-3
MCT	___	Mechanical engineering technology electives	3-0-3	3-0-3
___	___	Technical electives	3-0-3	6-0-6
___	___	General education requirements[2]	3-0-3	3-0-3
			14	15

[1]For example, 3-0-3 means 3 class hours, 0 lab. hours, and 3 sem. hrs. of credit.

[2]See General Education Requirements, Chapter V. Some general education courses are specified in the program (e.g., PHY 203); others are to be chosen from the listing of approved courses.

FACULTY

Robert L. Mott, *Chairperson*
Professors: Mott, Wilder, Wolff
Associate Professor: Doepker
Assistant Professors: Kretzler, Seefluth
Adjunct Associate Professor: Wendeln

COURSES OF INSTRUCTION

MCT 103L. TECHNICAL DRAWING I: Introduction to technical drawing with emphasis on orthographic projection and conventional industrial practices in producing technical sketches and completed drawings. Six hours of laboratory a week. *2 sem. hrs.*

MCT 104L. TECHNICAL DRAWING II: Descriptive geometry drawing problems involving points, lines, planes, and geometric shapes presented and solved in orthographic projection form. Six hours of laboratory a week. Prerequisite: MCT 103L. *2 sem. hrs.*

MCT 108L. MANUFACTURING PROCESSES LABORATORY: Basic metal removal processes, metal cutting theory, and production machines, such as lathes, grinders, milling machines, and drill presses. Three hours of laboratory a week. *1 sem. hr.*

MCT 206L. DIMENSIONAL MEASUREMENTS: Theory and practice of precision dimensional metrology. Three hours of laboratory a week. Prerequisite: SET 111. *1 sem. hr.*

MCT 215. STATICS: Force systems, resultants and equilibrium, centroids of areas and centers of gravity of bodies, trusses, frames, beams, friction, and moments of inertia of areas and bodies. Prerequisite: SET 111. *3 sem. hrs.*

MCT 217. DYNAMICS: Principles of applied engineering dynamics, including kinetics, kinematics, conservation of energy, conservation of momentum, and introduction to mechanical vibrations. Prerequisite: MCT 215 or 220. *3 sem. hrs.*

MCT 220. STATICS AND DYNAMICS: Force systems, components, resultants, equilibrium, center of gravity, friction, moment of inertia, kinematics and kinetics. Prerequisite: SET 111. *3 sem. hrs.*

MCT 221. STRENGTH OF MATERIALS: Principles of applied strength of materials primarily with reference to mechanical design. Prerequisites: MCT 220 or 215; SET 210. *3 sem. hrs.*

MCT 231. FLUID MECHANICS: Properties of fluids, hydrostatic and buoyant forces, Bernoulli's equation, energy equation, flow of real fluids in pipes, friction losses, measurement of flow. Prerequisite: SET 111. *3 sem. hrs.*

MCT 313. INDUSTRIAL MECHANISMS: Motions, displacements, velocities, accelerations, cams, linkages, and gears with applications to selected machines or devices. Prerequisite: MCT 220 or 217. *3 sem. hrs.*

MCT 330. DESIGN OF MACHINE ELEMENTS: Analytical design of springs, shafts, couplings, bearings, gears; stress analysis, working stresses, fatigue. Prerequisites: MCT 313, 221. *3 sem. hrs.*

MCT 332. DESIGN FOR MANUFACTURING: Basic principles of the design of tools for material removal, pressworking, casting, and joining processes; material selection and torque, thrust, horsepower, pressures required. Corequisite: MCT 221. *2 sem. hrs.*

MCT 333L. MEASUREMENTS II: Laboratory experiences in selected physical measurements and evaluations: typical selections from pressure, temperature, flow, power, hardness, stress, and strain. Three hours of laboratory a week. Prerequisites: IET 104; MCT 220 or 217; MCT 231. *1 sem. hr.*

MCT 336. FLUID POWER: Study of hydraulic and pneumatic fluid power systems and components as used in industrial, mobile, and aerospace applications. Analytical design of circuits, components, and basic control devices. Prerequisite: MCT 231. Corequisite: MCT 336L. *3 sem. hrs.*

MCT 336L. FLUID POWER LABORATORY: Laboratory to accompany MCT 336. Evaluation of fluid power components, circuits, and control devices accomplished from physical measurements and visual inspections. Graphical design and further analytical design of circuits and systems. Three hours of laboratory a week *1 sem. hr.*

MCT 342. THERMODYNAMICS: General laws of thermodynamics, properties of pure substances, processes, cycles, and applications to machines. Prerequisite: SET 210. *3 sem. hrs.*

MCT 400. SELECTED MECHANICAL TOPICS: Investigations and discussion of current technical topics in mechanical engineering technology. May be taken more than once. Prerequisite: Permission of the department chairperson. *1-4 sem. hrs.*

MCT 423. DESIGN OF MECHANICAL SYSTEMS: Synthesis of mechanical devices and systems. Emphasis on the integration of various machine elements into a single unit. Original team design projects required. Prerequisite: MCT 330. *3 sem. hrs.*

MCT 430. DESIGN OF FLUID POWER SYSTEMS: Design of fluid power systems using graphical and analytical optimizing techniques. Open and closed loop circuit studies. Original design projects. Prerequisite: MCT 336. *3 sem. hrs.*

MCT 431. FLUID POWER CONTROLS: Study of pneumatic fluid power and control systems including moving and non-moving fluid logic; logic theory; electric, programmable controllers and servo controls. Prerequisite: MCT 336. *3 sem. hrs.*

MCT 432. HEAT POWER: Applications of the fundamentals of thermodynamics, emphasizing energy transfer systems such as internal combustion engines, gas turbines, steam power plants, and reversed cycle devices. Prerequisite: MCT 232. *3 sem. hrs.*

MCT 434. INTRODUCTION TO NUMERICAL CONTROL: Manual and computer-assisted programming and operation of NC machine tools, study of robotic and computer-integrated manufacturing concepts. Prerequisite: SET 111. *3 sem. hrs.*

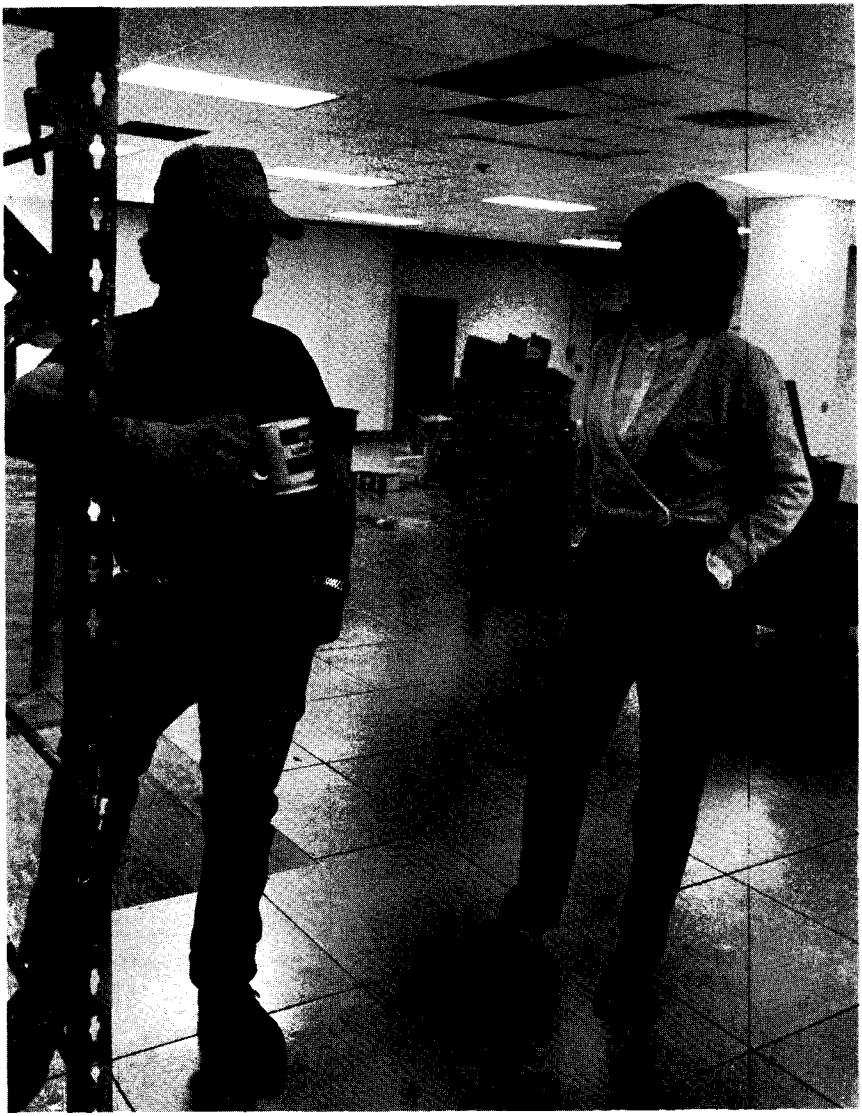
MCT 435. MECHANICAL DESIGN: Bringing analytical and graphical techniques from previous courses together to accomplish the design of complete mechanisms or other types of mechanical devices. Prerequisite: MCT 330. *1 sem. hr.*

MCT 438. THERMAL CONTROL: Elements of heat transfer: conduction, convection, and radiation; heat transmission through walls, applications to industry and building construction. Prerequisite: MCT 231. *3 sem. hrs.*

MCT 440. APPLIED VIBRATIONS: Vibration of single degree of freedom systems, reciprocating machinery, and rotating machinery; balancing; vibration damping; isolation; applications to noise reduction. Prerequisites: MCT 217, SET 306. *3 sem. hrs.*

MCT 445. EXPERIMENTAL MECHANICS: Principles of experimental stress analysis and motion measurement using strain gages, photoelasticity, brittle coatings, accelerometers, and computerized data acquisition and analysis. Corequisite: MCT 445L, 330. Prerequisite: EET 201. *2 sem. hrs.*

MCT 445L. EXPERIMENTAL MECHANICS LABORATORY: Laboratory to accompany MCT 445. Laboratory experiments to install and calibrate strain gages, measure strain on structures in tension and bending using strain gages, photoelasticity and brittle coatings, vibration measurement using accelerometers and motion transducers. Corequisite: MCT 445. *1 sem. hr.*



ENGINEERING TECHNOLOGY SERVICE COURSES (SET)

FACULTY

Professor: Strange
Associate Professor: Staub
Assistant Professor: C. Schleppi

COURSES OF INSTRUCTION

SET 101. INDUSTRIAL MATHEMATICS: Review of introductory algebra and other selected mathematical topics. *3 sem. hrs.*

SET 109. ENGINEERING TECHNOLOGY MATHEMATICS I: Fundamental processes of algebra including factoring, fractions, exponents and radicals, linear and quadratic equations, determinants, logarithms, inequalities, arithmetic and geometric progressions. *4 sem. hrs.*

SET 111. ENGINEERING TECHNOLOGY MATHEMATICS II: Introduction to trigonometry including angular measure, interpolation, identities, graphs, right and oblique triangle, functions of composite angles. Topics of analytic geometry including straight lines and conic sections. Prerequisite: SET 109. *3 sem. hrs.*

SET 134. EFFECTIVE SPEAKING: Organization and presentation of spoken materials with emphasis on voice and physical delivery and audience reaction. *2 sem. hrs.*

SET 152. INTRODUCTION TO ENGINEERING TECHNOLOGY: The environment of engineering technology, an introduction to problem-solving techniques and basic engineering technology concepts. *1 sem. hr.*

SET 153. TECHNICAL COMPUTATION: Introduction to computer programming in BASIC, including BASIC statements, input, output, looping, branching, and arrays. *1 sem. hr.*

SET 210. ENGINEERING TECHNOLOGY MATHEMATICS III: Introduction to the basic concepts of differential and integral calculus. The derivative, maxima and minima, differentials, the antiderivative, applications. The definite integral, integration, areas, volumes, centroids, work. Prerequisite: SET 111. *3 sem. hrs.*

SET 211. ENGINEERING TECHNOLOGY MATHEMATICS IV: The derivative and antiderivative formulas for composite functions: chain rule, exponential and logarithmic functions, trigonometric functions, integration techniques. Introduction of partial derivatives and multiple integrals. Prerequisite: SET 210. *3 sem. hrs.*

*SET 301. THE TECHNOLOGICAL SOCIETY I: History of technology as a revolutionary social force and of the interrelationships between technology, politics, and economics. Prerequisite: HST 101 or 102. *3 sem. hrs.*

*SET 302. THE TECHNOLOGICAL SOCIETY II: Continuation of SET 301 with emphasis on the sociology of technology; criticism and defense of technology as a social force. *3 sem. hrs.*

SET 306. ENGINEERING TECHNOLOGY MATHEMATICS V: Selected topics from ordinary differential equations with emphasis on operational methods for solving problems encountered in engineering technology. Prerequisite: SET 211. *3 sem. hrs.*

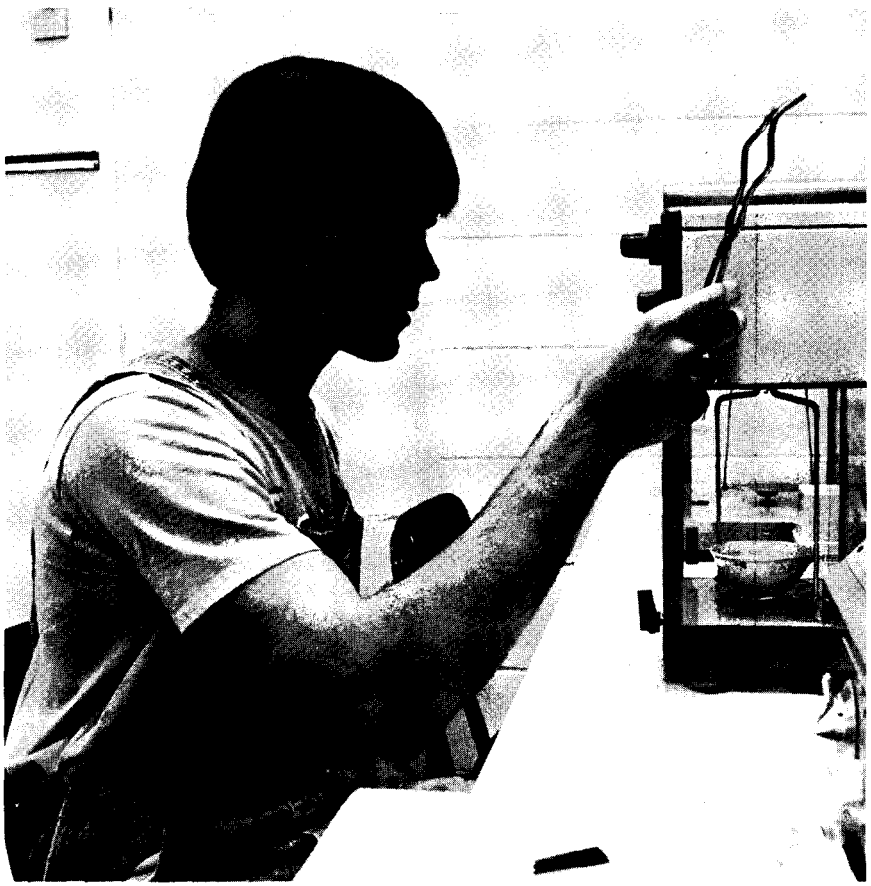
SET 334. TECHNICAL WRITING: Comprehensive treatment of the fundamentals of writing effective technical documentation for industry, including use of technical illustrations and tables. *2 sem. hrs.*

SET 400. SPECIAL TOPICS IN ENGINEERING TECHNOLOGY: Investigation and discussion of current topics in engineering technology. May be taken more than once. Prerequisite: Permission of instructor. *1-4 sem. hrs.*

SET 401. DESIGN OF SYSTEMS: An interdisciplinary course in which a team of students solves a complex problem using a three-phased systems approach. Projects vary from term to term, but all are concerned with societal problems, such as transportation, energy, or environment. *3 sem. hrs.*

SET 499. SEMINAR: Selected technical and occupational topics. Required of all technology students in the senior year. *1 sem. hr.*

*General education course. See Chapter V.



X Interdisciplinary, Experimental, and Special Areas

CENTER FOR CHRISTIAN RENEWAL

The Center for Christian Renewal brings the resources of the University and the Catholic and Christian community into cooperation and dialogue with groups in the local community, the archdiocese, the nation, and the world. The Center is a collaborative effort of the Marianist community, the faculty, staff, and students of the University, and the Church community of the Archdiocese of Cincinnati. Activities of the Center and its constitutive organizations are made possible by the resources, contributed services, and financial support of the Marianist community. The following four organizations carry out the mission of the Center.

CENTER FOR RELIGIOUS TELECOMMUNICATIONS

The Center for Religious Telecommunications (CRT) is concerned with the value and dignity of the person in a technological milieu. It seeks to be of service to the Church in its use of telecommunications as a means of education and evangelization, regionally, nationally, and internationally. Formed in 1983, CRT offers consultation on the evolution and impact of the new technologies on church ministries; offers consultation, courses, workshops, and seminars for persons in communications ministries; designs and coordinates audio- and video-teleconferences; and, as the need arises, aids in the production of religious programs for local and national distribution. Students interested in special projects or internships with the Center are invited to see the director of CRT.

MORES OFFICE—CENTER FOR CREATIVE MINISTRY

MORES—Center for Creative Ministry provides liaison between the University community and the surrounding community in adult religious education, leadership, and pastoral ministry. It conducts research and provides development and support in various ways: presentations, workshops, institutes, consultation, program planning, group development, and facilitation. Situated in the Department of Religious Studies, MORES collaborates, frequently as a co-sponsor, with various units of the University as well as with various agencies and other units of both the Archdiocese of Cincinnati and the local interfaith community.

OFFICE OF EDUCATIONAL SERVICES

The Office of Educational Services provides assistance to schools and school districts to enable school personnel to reach policy decisions based on relevant knowledge and value commitments. "Relevant knowledge" includes financial

studies, needs assessments, attitude surveys, enrollment projections, and other information necessary for making intelligent decisions about specific policies. "Value commitments" include consideration of educational aims and ethical questions inherent in policy decisions. The Office shares in the purposes of Catholic education. One of its priorities is service to Catholic schools. Another is its effort to act as a network linking individuals who share value concerns as they relate to educational policy-making. The Office is located in, draws support from, and uses the resources of the School of Education.

STRATEGIES FOR RESPONSIBLE DEVELOPMENT

Strategies for Responsible Development has as its purpose to further distributive justice through education, outreach, and research. It joins the technical resources of the University with growing Church ministries aimed at human development and social justice. Founded by the Marianists at UD in 1974, SRD provides opportunities for the University community to interact with and learn from diverse cultures by sponsoring projects that put faculty, students, and research staff in touch with less developed peoples. Increased awareness of social justice has resulted from SRD activities, which have included a ministry to migrant farm worker families in Ohio; training sessions and workshops on neighborhood development issues; a community garden and solar greenhouse in Dayton; courses of undergraduate study involving a Third World experience; collaboration with a Canadian agency in integrated rural development in Niger, West Africa; and consulting assignments in planning and management. In all its efforts, SRD is committed to preparing people who can responsibly foresee and address the social, economic, and ecological effects of development.

CENTER FOR INTERNATIONAL STUDIES

The Center for International Studies was established within the College of Arts and Sciences to provide an institutional base for the major in international studies, to facilitate faculty research in international affairs, and to increase community outreach. The Center supports the University's Model United Nations and the immersion experience that is part of the minor in international development studies. It also sponsors programs and conferences on such subjects as U.S.-Latin American and U.S.-Soviet relations. Many of these are cosponsored by the Dayton Council on World Affairs, an autonomous organization now housed in the Center. See also INS, Chapter VI.

CENTER FOR THE STUDY OF FAMILY DEVELOPMENT

The Center for the Study of Family Development serves as a major resource for an interdisciplinary program of family studies within the College of Arts and Sciences. Center functions include systematic research into family life and the issues concerning families, an interdisciplinary minor in family studies, and services to families and those working professionally with families. See also FAD, Chapter VI.

COMPUTER CENTER

In the Computer Center, the University's Office for Computing Activities (OCA) operates several time-sharing computers and microcomputers for the benefit of students, faculty, and staff as well as for academic support services, the registration process, and many other administrative functions.

Various academic departments offer courses in or involving programming and the use of the computer, for which students regularly come to OCA's Data Center to do assignments. In addition, students not enrolled in courses specifically requiring computer use may learn about it and gain experience on a first-come, first-served basis once they have received identifying numbers (applied for at the Office for Computing Activities). The open-shop terminals and keypunch machines are available for those who need them. The Bookstore sells manuals produced by the staff to explain the Computer Center's program library, equipment, and capabilities.

Student dispatchers, consultants, and programmers are hired each year to assist the staff in providing computing service to the University community. Students interested in working as any of these are encouraged to visit the office of the assistant director for computer operations, the assistant director for academic computing, or the director of OCA.

CONTINUING EDUCATION

The Office of Continuing Education especially serves adults of the Dayton community who are not full-time students. It introduces to them, and facilitates their entry into, courses and programs the University offers that they may find useful to any number of their own purposes. It helps them adapt the University's broad range of academic offerings to their personal schedules, interests, and goals.

In addition, the Office of Continuing Education provides a variety of noncredit courses, many in the form of workshops, seminars, study tours, conferences, and teleconferences. These are planned to meet the educational and training needs of organizations and of the community and are held both on and off campus. Continuing Education Units (CEU) are awarded for some courses.

COOPERATIVE EDUCATION

Cooperative education is an optional program of full-time, on-campus study alternating with terms of full-time, off-campus work training. Among the expected benefits to the student are on-the-job experience, career identification, financial assistance, and professional development. The work training terms average sixteen weeks. Three full terms of work training are considered minimum for the program. Students are encouraged to begin their first co-op work experience after their third semester of academic study.

COOPERATIVE EDUCATION CALENDAR

		Aug.-Dec. 1st Term	Jan.-Apr. 2nd Term	May-Aug. 3rd Term
1st Year	Group A	Study 1	Study 2	Study 3
	Group B	Study 1	Study 2	Vacation
2nd Year	Group A	Work A	Study 4	Work B
	Group B	Study 3	Work A	Study 4
3rd Year	Group A	Study 5	Work C	Study 6
	Group B	Work B	Study 5	Work C
4th Year	Group A	Work D	Study 7	Work E
	Group B	Study 6	Work D	Study 7
5th Year	Group A	Study 8	—	—
	Group B	Work E	Study 8	—

Qualifications for entering and remaining in cooperative education are (1) to be admitted to the University as a full-time undergraduate with the intention of graduating; (2) to be a declared major in one of the academic departments participating in the co-op program; (3) to maintain good academic standing as specified by the particular academic department; and (4) to engage in full-time study and make progress toward the degree during each study term following each full-time work training term. Placement in a job is not guaranteed since it depends on the student's qualifications and on the availability of jobs.

Cooperative education is currently available as an option to full-time undergraduate majors in the following:

COLLEGE OF ARTS AND SCIENCES: Chemistry (CHM), Computer Science (CPS), Systems Analysis (SYA).

SCHOOL OF BUSINESS: Accounting (ACC), Decision Sciences (DSC), Economics (ECO), Finance (FIN), Management (MGT), Marketing (MKT).

SCHOOL OF ENGINEERING: Chemical Engineering (CME), Chemical Process Technology (CPT), Civil Engineering (CIE), Electrical Engineering (ELE), Electronic Engineering Technology (EET), Industrial Engineering Technology (IET), Mechanical Engineering (MEE), Mechanical Engineering Technology (MCT).

If the cooperative education option becomes available in other majors, notice will be released through the admissions counseling staff of the University.

Incoming freshmen or transfer students interested in cooperative education

should attend a Co-op New Student Seminar during the new student orientation week in August or attend one of the seminars held in September and January of each year. After each Co-op New Student Seminar, such students may begin the process of entering the program, which includes filing an application and having an initial interview with one of the coordinators. Students who start at the University are eligible for placement after completing three terms of full-time study on campus. Transfer students, whether from two-year or four-year institutions, spend at least one full-time study term on campus after transferring before becoming eligible to be interviewed for the first work-training term.

Further information on the cooperative education program may be obtained by writing or calling the Director of Cooperative Education, University of Dayton, Dayton, Ohio 45469; telephone (513) 229-3914.

DEVELOPMENTAL SKILLS (DEV)

Developmental skills courses are offered by the Learning Assistance Center. (See Chapter II.) Their purpose is to assist students who need additional work in reading, writing, or mathematics. Although credit is attached to these courses, this credit is not applicable toward graduation in any academic program. It is counted, however, in determining class status and eligibility for financial aid.

COURSES OF INSTRUCTION

DEV 050. DEVELOPMENTAL READING AND STUDY SKILLS: Instruction and practice in college-level reading and studying: vocabulary development, paragraph comprehension, textbook reading, note taking, test taking, and time management. *3 sem. hrs.*

DEV 060. DEVELOPMENTAL MATHEMATICS: Review of the fundamental principles of arithmetic and beginning algebra. *3 sem. hrs.*

DEV 070. DEVELOPMENTAL WRITING: Basic grammar and composition, including sentence building, usage, punctuation, and paragraph and theme writing. Required of students whose scores do not permit placement in ENG 101. *3 sem. hrs.*

GENERAL STUDIES (GEN)

Students who find the traditional programs with departmental majors unsuitable to their purposes, needs, or interests may follow patterns of their own design in choosing courses under the General Studies Program, which leads to the degree of Bachelor of General Studies. See GEN, Chapter VI.

HOME-STUDY COURSES

Students who wish to accrue academic credit during the summer but find it inconvenient to be on campus for classroom courses during either session of the third term should consult the official third-term composite of courses and consult with their advisors for information about the home-study courses that several departments offer. These are conducted by mail on a tutorial or semi-tutorial basis for students who have proven their ability and their motivation to work alone.

HUMAN RELATIONS

As an integral part of the Office of Personnel Services, the Human Relations Office, in St. Mary's Hall, Room 122, provides services to all employees, including student employees. The human relations director is the University's compliance officer for Affirmative Action/Equal Employment Opportunity (AA/EEO), Title IX of the Education Amendment of 1972, Sections 503 and 504 of the Rehabilitation Act of 1973, Section 402 of the Vietnam Era Veterans Readjustment Assistance Act of 1974, and the Age Discrimination Act of 1975.

INTERDISCIPLINARY STUDIES

All interdisciplinary and experimental studies at the University of Dayton must involve University students and faculty, must be commensurate with University resources or resources accessible to the University, and must further the recognized goals and purposes of the University. When these studies involve disciplines within the College of Arts and Sciences or one of the Schools, they are administered by or through the offices of the respective deans. When they are University-wide, i.e., inter-school, they are usually administered by the Office of the Provost. See also Interdisciplinary Studies in Chapters VI (ASI), VII (BAI), VIII (EDI), IX (ENI).

UNIVERSITY-WIDE INTERDISCIPLINARY (UDI)

Courses considered suitable for the UDI designation are submitted for approval to the Committee on Review of Experimentation (CORE), which is accountable to the Vice President for Academic Affairs and Provost.

The following courses have been offered at least once from the first term of 1982-83 through the second term of 1984-85.

COURSES OF INSTRUCTION

UDI 158M. INTRODUCTION TO CAREER DEVELOPMENT: Survey of career development theories and the world of work. Determining career interests, decision making, and developing a personal plan of action. Participation in a field experience. *1 sem. hr.*

UDI 160M. CLASSROOM METHODS FOR CCD: Introduction to the teaching of religion in CCD programs. Methods used from pre-school through 12th grade. *1 sem. hr.*

UDI 164M. INTRODUCTION TO DISASTER SERVICES: Introduction to the knowledge, skills, and attitudes necessary in meeting the disaster-caused needs of individuals and families. *1 sem. hr.*

UDI 222M. BLACK WOMEN IN AMERICA: Discussions with outstanding black professional women on the contributions black women have made in education, politics, literature, performing arts, and civil rights. *1 sem. hr.*

UDI 225M. RAPE: BREAKING THE SILENCE: A seminar overview of the rape issue: services offered by Victim-Witness Center, methods of self-defense, examination procedures for rape victims, attitudes of society towards victims, psychology of the offender, biblical references, legal aspects, and the implications of the Rideout case. *1 sem. hr.*

UDI 226M. WOMEN IN SCIENCE: For women intending careers in science, especially in areas previously male-dominated. Study of lives of famous women scientists and of certain psychological methods to enable the students to better establish their identities as scientists or medical doctors and to surmount difficulties unique to women in such fields. *1 sem. hr.*

UDI 232M. RESPONSIBILITY IN A HUNGRY WORLD: Exploration of social and personal responsibility for solving the problem of world hunger; identification and analysis of hunger problems globally and locally; participation in the local events of Hunger Awareness Week. *1 sem. hr.*

UDI 243M. WOMEN IN THE ECONOMY: Study of the position of women in the economy emphasizing analysis of occupational stereotyping, low earnings, and changing labor force participation rates of women. Discussion of government and institutional policies affecting the economic position of women. *1 sem. hr.*

UDI 244M. BLACK WOMEN, BLACK MEN: Discussions with black professional people on the black experience in America; problems of male-female relationships. *1 sem. hr.*

UDI 246M. THREE AMERICAN CULTURES: Exposure to group differences in cultural, racial, and ethnic backgrounds and experiences. Emphasis on acceptance and appreciation of the pluralistic nature of American society. *1 sem. hr.*

UDI 247M. BLACK MEN AND WOMEN—SUCCESS IN AMERICA: Discussions with black professional people on the contributions of black men and women in America. *1 sem. hr.*

UDI 248M. BIRTH DEFECTS: The types and causes of birth defects; environmental hazards to the unborn; health standards and the control of pollution. *1 sem. hr.*

UDI 334M. STRATFORD SHAKESPEARE: Preparation for experiencing Shakespearean drama. Restricted to participants in the Stratford (Ontario) Drama Festival Tour. *1 sem. hr.*

UDI 339M. COMPUTER INFORMATION SEARCH LITERACY: Practical techniques of on-line search procedures, using the DIALOG data base. *1 sem. hr.*

UDI 340M. BIRTH DEFECTS: The structural nature and functional deficits of birth defects; environmental hazards to the unborn. Emphasis on the multifactoral concept of the origin of birth defects. *1 sem. hr.*

UDI 341M. WRITER'S WORKSHOP: "Hands-on" experience in creative, journalistic, and free-lance writing. Students prepare for the workshop in a preliminary meeting, attend the Distinguished Speakers Series appearance of an established writer, and participate in an all-day workshop. *1 sem. hr.*

UDI 342M. ETHICS IN BUSINESS AND GOVERNMENT: Course in conjunction with the Distinguished Speakers Series on Ethnics in Business and Government. Emphasis on responsible development of positions on ethical questions in business, government, and medicine. *1 sem. hr.*

UDI 350M. AMERICAN CATHOLIC BISHOPS' STATEMENT ON WAR: A study of the 1983 pastoral "The Challenge of Peace: God's Promise and Our Response." The background of the pastoral; an exploration of its content. *1-2 sem. hrs.*

INTERNATIONAL EDUCATION SERVICES

The University of Dayton maintains two offices to serve the needs of international students and others whose native languages are not English. These services are available to any member of the University community for whom English is not the primary language.

INTERNATIONAL STUDENT ADVISOR

An international student advisor provides individual counseling to all international students on immigration and financial and social needs, offering assistance in such matters as housing, meal tickets, and campus jobs. She is always available in emergencies. Arrangements to see the international student advisor should be made within twenty-four hours of a new student's arrival on campus.

INTERNATIONAL SERVICES COORDINATOR

The coordinator, International Services, is available to assist international students with all matters pertaining to admissions, including the evaluation of foreign credentials to determine the amount of credit transferable to the University of Dayton. She is also available to advise and assist members of the faculty and others of the campus community in matters pertaining to visas and immigration law.

MARIAN LIBRARY

The Marian Library, on the seventh floor of the Roesch Library, houses the world's largest collection of theological, artistic, and devotional literature dedicated to the Virgin Mary. Scholars from many nations have been using its resources, which include 66,000 books and pamphlets in over fifty languages (several thousand printed before 1800), runs of 125 periodicals, a clipping file of 49,000 items, some 200 microforms, and a large philatelic collection, as well as medals, slides, photographs, and other pictorial materials. This assemblage of Mariana is supplemented by national and regional bibliographies, reference tools for studies of the Bible, and works on the history of printing, ecclesiastical and dogmatic history, and Christian art, with special emphasis on the art of the Eastern Churches and medieval Europe.

Professors can make arrangements for special class sessions at the Marian Library on such topics as the history of printing, Christian art, and the development of the Marian cult. The Marian Library features exhibits of its holdings and sponsors occasional lectures by visiting speakers. A recently inaugurated International Marian Research Institute (IMRI) offers programs of study at the graduate level in Christology, Mariology, and Ecclesiology. It also prepares candidates for the Pontifical doctoral degree in theology. The Marian Library publishes a scholarly annual called *Marian Library Studies.* This multilingual journal is intended to promote the renewal and development of scientific studies in Mariology by integrating them with other spheres of research such as the critical edition of texts, historical bibliography, comparative studies in theology, psychology, and religious anthropology.

MINICOURSES

Minicourses are special, short-term, credited courses developed by students and/or faculty to meet specific, sometimes highly current needs or interests not provided for in the regular curricula. They are offered to all students through the Office of Continuing Education as well as by academic departments. The typical minicourse carries one semester hour of credit, which implies fifteen class hours. Classes can be in various sequences, extending over several weeks or concentrated within a few days. (Some minicourses take the form of workshops.) Occurring at various times in the year, minicourses are well publicized on campus. They can be added to students' schedules during the term.

PRE-LAW

At the University of Dayton, pre-law, as such, is not a major. There is no given major that serves as a prerequisite to any law school. Moreover, entering students at the University need not select their majors immediately. Instead, they may simply declare their interest in pre-law. Pre-law counseling at the University will aid them in selecting courses. The choice of a specific major may come later.

Law schools generally recommend that students planning careers in law select undergraduate majors according to their interests and abilities. They suggest that their undergraduate programs provide them with courses that will assist them in developing certain skills or abilities necessary to success in law school and pertinent to a career in the law. They are virtually unanimous in recommending that undergraduate course work focus on four general areas of concentration. Disciplines providing courses that allow for this concentration may be found across the University, both within and without the student's major field of study. The skills and abilities that are most recommended are the following:

1. *An analytic, conceptual facility* (e.g., philosophy, literature, mathematics, languages, scientific methodology)
2. *Proficiency in writing and communication skills* (e.g., composition, expository writing, argumentation, research papers)
3. *A familiarity with the American legal and political system* (e.g., political science, history)
4. *A familiarity with basic accounting concepts and principles of economics* (e.g., accounting, economics)

The function of the Pre-Law Committee at the University is to aid students in their search across the University for the opportunity to develop in these four areas. In addition, members of the committee can provide students with current information pertaining to the LSAT, law school recruitment, and requirements of law schools in general and in particular. Two special services of the Pre-Law Committee are a "practice" LSAT, offered twice a year, and a pre-law internship, in which students perform legal duties in attorneys' offices and receive course credit.

Committee members offer individual and intensive counseling according to each student's needs. The following professors are members of the Pre-Law Committee: Roberta Alexander (History), Gerald Kerns (Political Science), Patricia Labadie (English), Michael Payne (Philosophy), and John Weiler (Economics and Finance).

For further information concerning pre-law at U.D., contact the committee chairperson, Professor Gerald E. Kerns, Department of Political Science, University of Dayton, Dayton, Ohio 45469.

PRIOR LEARNING THROUGH EXPERIENCE

A matriculated student 26 years of age or over may earn University credit for prior learning acquired in work experience, in community service, or in other ways outside college- and university-sponsored programs of study. Credit is determined and awarded through the College of Arts and Sciences after faculty assessment of a portfolio documenting the learning thus acquired. Any student interested in pursuing this option should request approval of his or her dean and then consult with the Self-Directed Learning Office (SDL).

RESEARCH INSTITUTE

The University includes research as one of its stated purposes. In addition to faculty members in academic departments, a large staff of research scientists, engineers, and technicians conduct both basic and applied research activities. Most of these activities are externally funded and are conducted in the laboratory facilities of the University of Dayton Research Institute.

Several hundred students are employed on research programs in accord with the University's emphasis on integration of research and instructional activities. In addition to financial benefits, this research participation provides students with valuable experience and an exposure to issues at the forefront of contemporary science and engineering.

RESERVE OFFICERS TRAINING CORPS (ROTC)

The Department of Military Science offers the Army ROTC training program on campus, leading to a commission as a second lieutenant in the U.S. Army at the time of graduation. See MIL, Chapter VI.

STUDY ABROAD

BUSINESS SUMMER STUDY ABROAD

The Business Summer Study Abroad program is open to all students with junior class or higher standing who have completed a minimum of twelve semester hours of business courses. The objectives of the program are to (1) have the students understand the concepts, techniques, and problems involved in international business, (2) raise the students' consciousness of the importance of culture to business in foreign environments, and (3) expose the students to the various approaches to conducting international business through visits and discussions with executives of U.S. and foreign international firms.

The term, of approximately one month's duration, will coincide with one of the ISSAP sessions to allow students to participate in both programs. The sites visited will vary from year to year but will normally be England and two or three other European countries. School of Business faculty will usually teach BAI 301, Practicum in International Business, and upper-division electives in their fields of expertise.

GEOLOGY FIELD COURSE—BRITISH ISLES

The Department of Geology conducts its course in field geology (GEO 303) on alternate years in the United Kingdom. In addition to practicing standard techniques of geologic mapping, students are presented with a variety of problems in structural, stratigraphic, and petrologic interpretations. Of particular interest are visits made to classic localities, such as Hutton's unconformity in Scotland and the Murchison-Sedgwick controversial Cambrian area of Wales, that were significant in the development of the earth sciences. Travel in the United Kingdom is by minibus, and lodging is at country inns.

INTERDEPARTMENTAL SUMMER STUDIES ABROAD

The Interdepartmental Summer Study Abroad Program (ISSAP) was established in 1972 to give students from all majors the opportunity to study and experience one or more foreign cultures. The program is open to anyone attending or eligible to attend the University of Dayton. The program sites, which vary from year to year, are three European cities. Students spend nearly one month at each of the sites with University of Dayton professors and may choose to attend at one, two, or three of the sites. Various courses are offered at each site, and a variety of disciplines is represented each year. A three-site participant can complete a full semester of course work abroad.

In the past, ISSAP students have studied in Athens, Dublin, Florence, Fribourg, London, Madrid, Munich, Paris, Rome, and Vienna, where they have taken courses in art history, business, communication arts, foreign languages, history, literature, music, philosophy, photography, political science, religious studies, and sociology.

SUMMER STUDY IN MADRID

The Summer Study in Madrid Program is an intensive thirty-day program of total immersion in a Spanish environment. Students live in the Marques de la Ensenada Dormitory at the University of Madrid, with very close access to many museums, theaters, palaces, castles, restaurants, and cafes. As a part of the curriculum there are tours to such historical sites as Burgos, Segovia, Toledo, and El Escorial, as well as visits to El Prado, Museo de Artes Modernas, and many other museums, art exhibitions, and theaters in Madrid. This program, in which participants are required to use Spanish at all times, is available only to upper-level students. Students receive credit under the course SPN 470.

SUMMER STUDY IN PARIS

The Summer Study in Paris Program, begun in 1977, is an intensive one-month experience of living in a totally French environment. This program is available only to upper-level students who can converse in French. The group is lodged at the Institution Sainte Marie-La Croix, a school in Antony, a south suburb of Paris. Students benefit from easy access to downtown Paris through the *métro* and from the small-town atmosphere of Antony. For one month they are required to speak only French and to take two or three courses in topics based on the available local culture such as French cinema, theatre, arts, and crafts; historical Paris; and France and the French. Visits to important sites

near Paris (Versailles, Fontainebleau) and trips elsewhere in France (Mont Saint Michel, Nice, Lourdes) are worked into the curriculum. Students taking this program receive credit under the course FRN 470.

UNIVERSITY HONORS PROGRAM

The University Honors Program is designed to provide unique opportunities for academically gifted undergraduate students to develop their intellectual talents and interests. Each year the Honors Council selects a limited number of entering students from the various undergraduate divisions—Arts and Sciences, Business Administration, Education, and Engineering—to participate in the program. Membership entitles these students to certain University privileges and demands of them a rigorous commitment to academic excellence. Honor seminars, often interdisciplinary, are offered to these students each semester through the beginning of the junior year. These are followed by a thesis or its equivalent to be completed by each student in his or her major area of concentration.

To graduate with a special degree in the Program, Honors students must complete the Honors curriculum and maintain a cumulative grade point average of 3.0.

UNIVERSITY SCHOLARS PROGRAM

The Scholars Program provides special curriculum offerings and programming to superior students admitted to the entering freshman class as University Scholars. Selected sections of general education courses and a number of upper-level seminars are made available to these designated students, who can also apply for admission to the University Honors Program. Additionally, the Scholars Program sponsors special events and speakers.

WVUD-FM

WVUD-FM is a 50,000-watt commercial stereo broadcast station situated on campus in the Kennedy Union building. While serving the Dayton metropolitan area 24 hours a day at 99.9 mhz, the station is utilized as a student training facility. Over half of the station's employees are students. Priority is given to those majoring in communication, performing and visual arts, marketing, management, and electrical engineering; however, all undergraduate UD students are eligible for employment. The station competes favorably with other commercial stations in the market by positioning itself as "Hit Radio 100."

XI Directories

GOVERNING AND ADVISORY BODIES

BOARD OF TRUSTEES

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Raymond L. Fitz, S.M., Chairperson; Paul F. Bredestege, S.M., A. Elaine Carey, Helen M. D'Agostino, James A. Doty, Doris A. Drees, James G. Durham, Sally M. Eifert, James P. Farrelly, Thomas P. Graham, William A. Honingford, Patricia A. Johnson, Edward W. Jurkat, Linda S. Keir, Edwin R. King, Joseph C. Kunkel, Thomas J. Lasley, II, Robert E. Montavon, George J. Roth, Richard B. Saphire, William S. Sekely, Suzanne S. Shavico, Patrick J. Sweeney, Donald R. Wiff. To be appointed: One undergraduate student and two graduate students.

ACADEMIC SENATE

Joseph W. Stander, S.M., President; Fred K. Bogner, George A. Bohlen, Alex J. Cameron, Frederick B. Davis, Kelvin H. Dickinson, Philip E. Doepker, Patrick G. Donnelly, E. James Dunne, Leroy V. Eid, Gordon E. Fuchs, Sam Gould, Nicoletta C. Hary, James L. Heft, S.M., Patricia A. Johnson, Ellis A. Joseph, Antonio E. Lapitan, Francis M. Lazarus, John McCloskey, Don B. Morlan, George B. Noland, Norman S. Phillips, John E. Rapp, Gordon A. Sargent, John R. Schleppi, James R. Schneider, Gertrude D. Shay, Rebecca M. J. Yates. To be elected: six student members.

STUDENT LIFE COUNCIL

William C. Schuerman, Chairperson; Beatrice W. Bedard, John H. Dirckx, M.D., Donald J. Frericks, Gordon E. Fuchs, Martin P. Herrick, S.M., Christopher P. John, Margaret A. Kammer, Joseph H. Lackner, S.M., Joan E. Long, Eleanor A. Kurtz, Thomas E. Madigan, Billy R. Mayo, Steven D. Mueller, William P. Roberts, Gary J. Scheckelhoff, Jack D. Teemer, Paul J. von Mohr, Clyde R. Wisch, Christopher J. Worland, Walter Gilliard. To be appointed: one faculty member, one graduate student, one Student Association representative, one additional undergraduate student.

OFFICERS OF THE UNIVERSITY

President ..... Raymond L. Fitz, S.M.
President Emeritus ..... Raymond A. Roesch, S.M.
Vice President for Academic Affairs and Provost ..... Joseph W. Stander, S.M.
Vice President for Administration ..... TBA
Vice President for Development and Alumni Relations ..... Thomas T. Montiegel
Vice President for Finance and Business ..... Gerald W. VonderBrink
Vice President for Student Development and Dean of Students .. William C. Schuerman
Vice President for University Relations ..... Thomas J. Frericks
Director, Campus Ministry ..... Joseph H. Lackner, S.M.
Director, Government Relations ..... Wilfred J. Steiner
Administrative Assistant to the President ..... Mary A. Neacy
Secretary to the President ..... Helen Sills

ACADEMIC AFFAIRS

Vice President for Academic Affairs and Provost ..... Joseph W. Stander, S.M.
  Assistant Vice President for Academic Affairs ..... Rocco M. Donatelli
  Associate Provost and Dean for Graduate Studies and Research .. George B. Noland
    Director, Research Institute ..... George B. Noland
  Dean, College of Arts and Sciences ..... Francis M. Lazarus
    Assistant Dean ..... Richard E. Peterson
    Assistant Dean ..... Ellen Murphy, O.P.
      Assistant to the Dean ..... Terrence D. Wong, S.M.
  Dean, School of Business Administration ..... Sam Gould
    Associate Dean ..... John E. Rapp
    Associate Dean and Director, Graduate Program ..... Henry H. Stick
    Director, Office of Special Projects ..... William A. Bruggeman, S.M.
  Dean, School of Education ..... Ellis A. Joseph
    Associate Dean ..... Jerrold D. Hopfengardner
    Assistant Dean ..... Joseph E. White
    Director, Teacher Placement ..... Robert R. Ritchie
  Dean, School of Engineering ..... Gordon A. Sargent
    Associate Dean for Engineering Technology ..... James L. McGraw
    Associate Dean and Director, Graduate Studies and Research .... Gary A. Thiele
  Dean, School of Law ..... Frederick B. Davis
    Associate Dean ..... Patricia H. Roll
    Associate Dean ..... Laurence B. Wohl
    Director, Law Library ..... Thomas L. Hanley
  Director, University Libraries ..... Edward D. Garten
    Director, Marian Library ..... Theodore Koehler, S.M.
  Registrar ..... Daniel F. Palmert
    Assistant Registrar—Records ..... Gladys M. Clement
    Assistant Registrar—Registration ..... Patsy L. Martin

Director, Center for Christian Renewal ..... Stanley G. Mathews, S.M.
Director, Office of Continuing Education ..... Susan J. McGough
Director, Honors Program ..... Patrick F. Palermo
Coordinator, International Services ..... Jean L. Huart
Coordinator, Placement and Cooperative Education ..... Raymond E. Martin, S.M.
Coordinator, University Media Centers ..... Joseph E. White
Academic Scholarships ..... James W. Hoover
Arts Series ..... Eleanor A. Kurtz, Linda S. Keir
General Manager, WVUD-FM ..... John M. Schaller

ACADEMIC DEPARTMENTS

	Chairpersons
Accounting	Ronnie J. Burrows
Biology	Kenneth J. McDougall
Chemical Engineering	Edmund J. Rolinski
Chemical Technology	David I. Gross
Chemistry	B. Lawrence Fox
Civil Engineering and Engineering Mechanics	Fred K. Bogner
Communication	Donald B. Morlan
Computer Science	Lawrence A. Jehn
Counselor Education and Human Services	Eugene K. Moulin
Decision Sciences	E. James Dunne
Economics and Finance	John E. Weiler
Educational Administration	Donald J. Frericks
Electrical Engineering	Donald L. Moon
Electronic Engineering Technology	Richard R. Hazen
Engineering Management and Systems	John R. Fraker
English	R. Alan Kimbrough
Geology	Charles J. Ritter
History	Roberta S. Alexander
Home Economics	Julia A. Palmert
Languages	Robert C. Conard
Management	David R. Lee
Marketing	William S. Sekely
Mathematics	John W. McCloskey
Mechanical Engineering	John J. Schauer
Mechanical Engineering Technology	Robert L. Mott
Military Science	Lt. Col. James C. Pack
Performing and Visual Arts	Patrick S. Gilvary
Philosophy	Lawrence P. Ulrich
Physical and Health Education	Doris A. Drees
Physics	J. Michael O'Hare
Political Science	Gerald E. Kerns
Psychology	Kenneth J. Kuntz
Religious Studies	James L. Heft, S.M.
Sociology and Anthropology	Patrick G. Donnelly
Teacher Education	Thomas J. Lasley, II

ACADEMIC PROGRAMS

	Directors
American Studies	Francis J. Henninger
Criminal Justice	James A. Adamitis
Industrial Engineering Technology	James F. Courtright
International Studies	Margaret P. Karns
Medical Technology	Charles J. Chantell
Premedical and Predental Studies	Charles J. Chantell
Social Work	Sandra K. Moore

CENTER FOR CHRISTIAN RENEWAL

Executive Director	Stanley G. Mathews, S.M.
Director, Office of Educational Services	Donald J. Frericks
Director, Center for Religious Telecommunications	Angela Ann Zukowski, M.H.S.H.
Director, Strategies for Responsible Development	Philip T. Aaron, S.M.
Interim Director, MORES—Center for Creative Ministry	Rita Bowen

UNIVERSITY LIBRARIES

Edward D. Garten, *Director*
Robert E. Montavon, *Book Acquisitions and Assistant Director*
Nicoletta C. Hary, *Cataloguing*
Frances Wright, *Circulation*
David M. Buckley, *Periodicals and Microforms*
Edward Starkey, *Reference and Bibliographic Instruction*
Cecelia Mushenheim, *Archives and Special Collections*
Rev. Theodore A. Koehler, S.M., *Director of the Marian Library*

RESEARCH

Associate Provost and Director, Research Institute ..... George B. Noland
Associate Director ..... John C. Wurst
Associate Director ..... Lloyd Huff
Supervisor, Aerospace Mechanics ..... Dale H. Whitford
Supervisor, Applied Physics ..... Eugene H. Gerber
Supervisor, Applied Systems Analysis ..... Nicholas A. Engler
Supervisor, Electrical and Computer Engineering ..... William J. Hovey
Supervisor, Experimental and Applied Mechanics ..... George J. Roth
Supervisor, Materials Engineering ..... Dennis A. Gerdeman
Supervisor, Metals and Ceramics ..... Alden E. Ray
Supervisor, Nonmetallic Materials ..... Robert L. Conner
Supervisor, Structural Integrity ..... Joseph P. Gallagher
Accounting Supervisor ..... John U. Weckesser
Contracts and Grants Administrator ..... Robert P. Boehmer
Personnel Administrator ..... Robert E. Artman
Purchasing Agent and Property Administrator ..... Sigmund W. Brzezicki
Technical Information Services Supervisor ..... Judith N. Hecht
Security Supervisor ..... M. Francina Lester

CAMPUS MINISTRY

Director ..... Rev. Joseph H. Lackner, S.M.
Campus Ministers ..... Bro. Paul F. Bredestege, S.M.
John F. R. Britt
Sr. Audrey Buttner, F.M.I.
Rev. Gerald Chinchar, S.M.
Rev. Gene Contadino, S.M.
Bro. Martin P. Herrick, S.M.
Bro. Daniel L. Klco, S.M.
Sr. Laura Leming, F.M.I.
Rev. Anthony Perfetto, S.M.
Bro. Russell Potryala, S.M.
Rev. James A. Russell, S.M.
Bro. Donald L. Smith, S.M.

ADMINISTRATION

Vice President for Administration ..... TBA
Director, Computing Activities ..... Ronald L. McAdams
Assistant Director for Administrative Computing ..... Albert J. Roemer
Assistant Director for Academic Computing ..... James Baccus
Assistant Director for Computer Operations ..... Aldo A. Gillio
Assistant Director for Telecommunications ..... William A. Honingford

Director, Personnel Services ..... Charles E. Chamberlain
Director, Human Relations ..... Curtis Hicks
Benefits Administrator ..... Kathleen J. Molnar
Personnel Assistant ..... Daniel J. Giner
Director, Institutional Studies ..... Patricia P. Lampton
Internal Auditor ..... TBA

DEVELOPMENT AND ALUMNI RELATIONS

Vice President for Development and Alumni Relations ..... Thomas T. Montiegel
Assistant to the Vice President ..... John Schneider, S.M.
Director, Development ..... Roy N. Parsons
Assistant to the Director ..... Joan N. Rizer
Associate Director ..... Michael F. Whelan
Associate Director ..... Mark Pribish
Director, Planned Giving ..... Cletus E. Oberst
Director, Alumni Relations and Annual Support Programs ..... Laramie Vincze
Special Assistant to the Director ..... Mary Shay
Associate Director ..... Molly M. Campbell
Director, Alumni and Development Records ..... Deborah L. Stoner
Coordinator, Development Research ..... Carolyn T. Denlinger
Director, University Communications ..... Richard T. Ferguson
Director, Development and Alumni Communications ..... Thomas M. Columbus
Director, News Services ..... Ro Nita B. Hawes-Saunders
Editor, *Campus Report* ..... Thomas Bidwell
Communications Coordinator ..... Heidi Fillion

FINANCIAL AFFAIRS AND SERVICES

Vice President for Finance and Business ..... Gerald W. VonderBrink
Comptroller ..... Thomas J. Weckesser
Budget Director ..... Joseph M. Garcia
Assistant Comptroller ..... Thomas E. Homan
Payroll and Insurance Manager ..... Harvey R. Reilich
Staff Accountant ..... Lucy A. Feltz
Staff Accountant ..... Davidine Rinehart
Bursar ..... Nancy V. Graft
Assistant Bursar ..... F. Sue Geesen
National Direct Student Loan Administrator ..... Edward M. McCormick
Director, Purchases ..... Gerald E. Busch
Business Manager ..... Robert V. Rotterman, Jr.
Director, Physical Plant ..... William J. Richeson
Supervisor of Custodial Service ..... William J. Richeson
Supervisor of Grounds and Trucking ..... Michael M. Hackett
Supervisor of Maintenance and Utilities ..... Edward W. Jurkat
Manager, University Bookstore ..... Paul L. Braddon
Assistant Manager ..... Lucille Stout
Assistant Manager ..... Ralph Mason
Postmaster ..... Thomas Seifert
Assistant Postmaster ..... Gary L. Holley
Director, Food Services ..... Thomas E. Madigan
Administrative Dietitian ..... Ann P. Ellis
Purchaser ..... Kathy Browning

Marycrest Cafeteria; Marycrest, Stuart, Founders Snack Bars . . Robert Schlaerth
Assistant Manager . . . . . Beulah Sutter
Kennedy Union Cafeteria, Dining Rooms, Snack Bar . . . . Charles Quackenbush
Assistant Manager . . . . . Stan M. Glander
Banquet Coordinator . . . . . Susan E. McKenna
U.D. Arena Concessions, Special Events . . . . . Eugene Bertke
Assistant Manager . . . . . Carolyn Craig
Manager, Laundry and Dry Cleaning . . . . . Dale E. Whitlock
Manager, University Press . . . . . Eugene A. Schwieterman
Vending . . . . . Thomas E. Madigan
Energy Coordinator . . . . . W. Mason Bagwell

STUDENT DEVELOPMENT

Vice President for Student Development and Dean of Students . . William C. Schuerman
Assistant Vice President for Student Development . . . . . Rosemary T. O'Boyle
Associate Dean for Human Services . . . . . John E. Riley
Associate Dean of Students: Student Life . . . . . Walter Gilliard
Associate Dean of Students: Student Services . . . . . Clyde R. Wisch
Assistant Dean of Students: Residence Life . . . . . Carol Cummins-Collier
Assistant Dean of Students: Discipline and Judiciaries . . . . . Mary Sue Hufnagle
Director, University Centers and Activities . . . . . Eleanor A. Kurtz
Director, Campus Housing . . . . . Edwin H. Melhuish
Director, Off-Campus Housing . . . . . Joseph Belle
Director, Psychological Services . . . . . Steven D. Mueller
Director, Orientation . . . . . Louis B. Fred
Director, Learning Assistance Center . . . . . Suzanne W. Soled
Director, Campus Security . . . . . Gary J. Scheckelhoff
Director, Minority Student Services . . . . . James A. Stocks
Medical Director . . . . . John H. Dirckx, M.D.
Advisor, International Students . . . . . Marie Milord
Advisor, Student Media . . . . . Anne E.F. Malone

HEALTH SERVICE

John H. Dirckx, M.D., *Medical Director*
Ethel Clark, *Administrator*
Mary Harmeson, R.N., *Director of Nursing*
Nurses: Ellen Banke, Ruth Barnes, Lois Hanes, Patricia Huelsman, Virginia Jauch, Patricia Roth

CENTER FOR PSYCHOLOGICAL SERVICES

Steven D. Mueller, *Director*
Bruce Duke, *Counselor and Career Specialist*
Wanda Hadley, *Counselor and Coordinator, Tutorial Services*
Susan M. Iwinski, *Clinical Counselor and Coordinator, Services for Handicapped Students*
Thomas Schroer, *Psychologist*
Thomas L. South, *Clinical Counselor*
Eleanor Karns, *Psychometrist*

UNIVERSITY RELATIONS

Vice President for University Relations and Director of Athletics..Thomas J. Frericks
Assistant Vice President for University Relations .....James W. Hoover
Director, Admissions .....Myron Achbach
Director, Financial Aid .....Robert L. Hildreth
Head Basketball Coach .....Donald J. Donoher
Assistant Basketball Coaches .....Dan Hipsher
Jack Butler
Associate Director, Athletics (Men's Programs).....Eugene W. Schill
Assistant Director .....Kenneth J. Keck
Head Football Coach .....Michael Kelly
Assistant Football Coaches .....Mark Schmitz
David Whilding
Ricky Chamberlain
Baseball Coach .....Tom Fries
Golf Coach .....Jim Larkin
Ice Hockey Coach .....Walter DeAnna
Soccer Coach .....Pete Hayes
Cross Country Coach .....Pat Miller
Water Polo Coach .....Sean Geehan
Tennis Coach .....Jim Larkin
Wrestling Coach .....Mike Hennessy
Men's Trainer .....Edward C. Kwest
Team Physicians .....Arthur Bok, D.O.
Tom Kramer, D.O.
William Donahue, D.O.
Associate Director, Athletics (Women's Programs) .....R. Elaine Dreidame
Basketball Coach .....Linda Makowski
Assistant Basketball Coach .....Cheryl Getz
Volleyball Coaches .....Carol Westbeld
Jeryl Neff
Field Hockey Coach .....Anne Buck
Soccer Coach .....Tom Schindler
Softball Coach .....Jeryl Neff
Women's Trainer .....Lori Flegle
Director, Recreational Sports .....Billy R. Mayo
Assistant Director .....Dave Ostrander
Arena Operations—Manager .....Joseph M. Eaglowski
Athletic Business Office Manager .....Thomas J. Westendorf
Ticket Manager .....George F. McCans
Facilities Manager .....Herbert J. Dintaman
Sports Information Director .....Doug Hauschild

FACULTY

PROFESSORS EMERITI

Comer, Orville L. (1950), *Marketing,* Associate Professor—B.S., Washington University, 1948; M.S., 1949.

Darr, John W. (1969), *Management,* Professor—B.S., Indiana University, 1949; M.B.A., 1950; Ph.D., University of Alabama, 1957.

Deibel, Francis A., S.M. (1954), *Library,* Assistant Professor—A.B., University of Dayton, 1929; B.S.L.S., Western Reserve University, 1943.

Dieska, Joseph L. (1960), *Philosophy,* Professor—B.A., State Gymnasium, Czechoslovakia, 1931; M.A., University of Bratislava, 1939; Ph.D., 1940.

Huth, Edward A. (1939), *Sociology,* Professor—A.B., Heidelberg College, 1921; M.A., University of Notre Dame, 1928; Ph.D., Western Reserve University, 1943.

McCarthy, Rev. Adrian J., S.M. (1958), *English,* Professor—A.B., University of Dayton, 1934; M.A., New York University, 1953; Ph.D., Fordham University, 1961.

Mann, Leonard A., S.M. (1945), *Physics,* Professor—B.S., University of Dayton, 1937; M.S., Ohio State University, 1945; Ph.D, Carnegie-Mellon University, 1954.

Murphy, Lorraine M. (1953), *English,* Associate Professor—B.A., Augustana College, 1946; M.A., Miami University, 1962.

Patyk, Josef (1963), *Political Science,* Associate Professor—Certificate, School of Public Administration, Poland, 1935; LL.M., Jagiellonski University, Poland, 1945; Ph.D., University of Colorado, 1965.

Rhodes, Rev. Edmund L., S.M. (1947), *Philosophy,* Associate Professor—A.B., University of Dayton, 1934; S.T.L., Catholic University of America, 1942.

Schmid, Merle D. (1960), *Engineering,* Professor—B.S., University of Washington, 1935; M.S., University of Arizona, 1936; Ph.D., Illinois Institute of Technology, 1959.

Schroeder, Elizabeth (1950), *Home Economics,* Associate Professor—B.S., College of Mt. St. Joseph-on-the-Ohio, 1942; M.S., Ohio State University, 1958.

DISTINGUISHED SERVICE PROFESSORS

Baker, Richard R. (1947), *Philosophy,* Distinguished Service Professor—A.B., University of Notre Dame, 1931; M.A., 1934; Ph.D., 1941.

Chudd, Cletus C., S.M. (1947), *Chemistry,* Distinguished Service Professor—B.S., University of Dayton, 1935; M.S., Western Reserve University, 1948; Ph.D., 1952.

Murphy, Harry C. (1950), *Marketing,* Distinguished Service Professor—B.B.A., University of Minnesota, 1948; B.S., 1949; M.A., 1951.

Schmidt, Bernhard M. (1948), *Electrical Engineering,* Distinguished Service Professor —B.E.E., University of Dayton, 1942; M.Sc., Ohio State University, 1957; Ph.D., 1963. Reg. Prof. Engr.

Schraut, Kenneth C. (1940), *Mathematics,* Distinguished Service Professor—A.B., University of Illinois, 1936; M.A., University of Cincinnati, 1938; Ph.D., 1940.

Springer, George H. (1946), *Geology,* Distinguished Service Professor—A.B., Brown University, 1938; ScM., 1940.

RANKED FACULTY

Aaron, Philip T., S.M. (1979), *Strategies for Responsible Development,* Assistant Professor (Administrative)—B.S., University of Dayton, 1954; M.S., St. Louis University, 1964; Ph.D., Case Western Reserve University, 1973.

Abramson, William (1970), *Medical Technology,* Clinical Professor—B.A., Temple University, 1933; M.D., Hahnemann Medical School, 1937.

Achbach, Myron H. (1969), *Director of Admissions,* Assistant Professor (Administrative)—B.A., University of Dayton, 1958; M.A., Western Reserve University, 1966.

Adamitis, James A. (1970), *Criminal Justice,* Associate Professor—B.A., Kent State University, 1965; M.A., 1967; Ph.D., Miami University, 1981.

Ahern, David W. (1977), *Political Science,* Associate Professor—B.A., Southern Connecticut State College, 1970; M.A., University of Maryland, 1972; Ph.D., 1976.

Alexander, Roberta S. (1969), *History,* Associate Professor—B.A., University of California, 1964; M.A., University of Chicago, 1966; Ph.D., 1974.

Allik, Judith P. (1976), *Psychology,* Associate Professor—B.A., Wellesley College, 1958; M.S., University of Pittsburgh, 1974; Ph.D., 1978.

Amsden, Robert T. (1978), *Decision Sciences,* Associate Professor—B.A., University of New Hampshire, 1960; M.S., Rutgers University, 1964; Ph.D., 1969.

Anderson, Gordon S. (1969), *Teacher Education,* Professor—B.A., Bethany College, 1953; M.S., State University of New York, 1959; Ed. D., Case Western Reserve University, 1969.

Anderson, Rev. William P. (1968), *Religious Studies,* Associate Professor—A.B., Bloomfield College, 1961; B.D., Princeton Theological Seminary, 1964; Th.D., 1968.

Anduze, Richard A. (1977), *Chemical Technology,* Lecturer—B.S., University of Dayton, 1945. Licensed Chemist.

Anessi, Thomas J. (1981), *Civil Engineering and Engineering Mechanics,* Assistant Professor—B.C.E., Catholic University of America, 1956; M.S.E., University of Michigan, 1961; Ph.D., University of Oklahoma, 1970. Reg. Prof. Engr.

Arons, Peter L. (1965), *English,* Associate Professor—A.B., New York University, 1957; M.A., Yale University, 1958; Ph.D., 1964.

Artz, Theodora S. (1974), *Law Library,* Assistant Professor—B.Ed., University of Toledo, 1962; M.S.L.S., 1974.

August, Eugene R. (1966), *English,* Professor—B.A., Rutgers University, 1958; M.A., University of Connecticut, 1960; Ph.D., University of Pittsburgh, 1965.

Back, Stanley J. (1959), *Mathematics,* Associate Professor—B.S., University of Dayton, 1957; M.S., Purdue University, 1959.

Bajpai, Praphulla K. (1964), *Biology,* Professor—B.V.Sc. and A.H., Agra University, 1958; M.V.Sc., 1960; M.Sc., Ohio State University, 1963; Ph.D., 1965.

Balloun, Joseph L. (1981), *Management,* Associate Professor—B.S., Iowa State University, 1963; M.S., 1965; Ph.D., University of California, 1971.

Bannan, Alfred J. (1962), *History,* Assistant Professor—B.A., Manhattan College, 1958; M.A., University of Notre Dame, 1961.

Faculty

Barnes, Michael H. (1968), *Religious Studies,* Associate Professor—A.B., St. Louis University, 1961; Ph.L., 1962; Ph.D., Marquette University, 1976.

Barrish, A. Joseph, S.M. (1968), *Performing and Visual Arts—Fine Arts,* Assistant Professor—B.S. in Ed., University of Dayton, 1950; M.A., Ohio State University, 1957.

Baxter, Carol J. (1970), *Performing and Visual Arts—Music,* Assistant Professor—B.M. and B.M.E., Wichita State University, 1957; M.M., Miami University, 1970.

Beauregard, Erving E. (1947), *History,* Professor—A.B., University of Chicago, 1942; M.A., University of Massachusetts, 1944; Ph.D., Union Graduate School, 1976.

Bedard, Beatrice W. (1982), *Communication,* Instructor—B.A., University of Dayton, 1974; M.A., 1976.

Bedard, Bernard J. (1962), *English,* Professor—A.B., University of Notre Dame, 1949; M.A., University of Michigan, 1950; Ph.D., 1959.

Benedum, Richard P. (1973), *Performing and Visual Arts—Music,* Associate Professor—B.A., Concordia Teachers College, 1966; D.M.A., University of Oregon, 1972.

Benson, Paul H. (1985), *Philosophy,* Assistant Professor—B.A., St. Olaf College, 1979; Ph.D., Princeton University, 1984.

Berg, Berthold (1974), *Psychology,* Associate Professor—B.A., University of Michigan, 1969; M.S., Purdue University, 1971; Ph.D., 1974.

Berger, Robert N. (1964), *Management,* Assistant Professor—B.S., University of Dayton, 1960; M.A., Ohio University, 1963; J.D., Chase School of Law, 1970.

Berney, Rex L. (1978), *Physics,* Associate Professor—B.S., University of Missouri, 1971; M.S., 1973; Ph.D., 1978.

Biers, David W. (1976), *Psychology,* Associate Professor—B.A., Lafayette College, 1966; M.S., Northwestern University, 1968; Ph.D., 1970.

Bilocerkowycz, Jaro M. (1985), *Political Science,* Assistant Professor—B.A., Eastern Illinois University, 1973; M.A., University of Washington, 1975; Ph.D., 1983.

Blatt, Stephen J. (1971), *Communication,* Associate Professor—B.A., Morehead State University, 1964; M.A., Ohio University, 1967; Ph.D., 1969.

Blodget, Elweyn C. (1982), *Economics and Finance,* Assistant Professor—B.S., Purdue University, 1966; M.B.A., University of Utah, 1972; Ph.D., 1980.

Boehman, Louis I. (1967), *Mechanical Engineering,* Professor—B.M.E., University of Dayton, 1960; M.S.T.E., Illinois Institute of Technology, 1963; Ph.D., 1967. Reg. Prof. Engr.

Bogner, Fred K. (1969), *Civil Engineering and Engineering Mechanics,* Professor—B.S.C.E., Case Institute of Technology, 1961; M.S.E. Mech., 1964; Ph.D., 1967.

Bohlen, George A. (1980), *Decision Sciences,* Associate Professor—B.S.M.E., Clemson University, 1958; M.S.I.E., Purdue University, 1963; M.S.B.A., George Washington University, 1968; Ph.D., Purdue University, 1973.

Boulet, Richard A. (1968), *Religious Studies,* Professor—A.B., Providence College, 1954; S.T.B., Immaculate Conception College, 1956; S.T.L., S.T.Lr., 1958; S.T.D., University of Montreal, 1965.

Bower, Samuel M. (1966), *Psychology,* Associate Professor—B.A., Mexico City College, 1957; Ph.D., Vanderbilt University, 1963.

Brady, Thomas J. (1981), *Accounting*, Associate Professor—B.S., New York University, 1966; M.B.A., Adelphi University, 1968; Ph.D., St. Louis University, 1981.

Branick, Vincent P. (1979), *Arts and Sciences*, Associate Professor—B.A., Chaminade College of Honolulu, 1963; M.A., Catholic University of America, 1964; S.T.B., University of Fribourg, 1966; S.T.L., 1969; D.Phil., 1971; S.S.B., Pontifical Biblical Institute, 1972; S.S.L., 1973; S.S.D., 1975; M.B.A., University of Dayton, 1983.

Bregenzer, John M. (1968), *Sociology and Anthropology*, Associate Professor—B.A., Carleton College, 1961; M.A., University of Minnesota, 1967; Ph.D., 1975.

Britt, John F. (1966), *Teacher Education*, Professor—B.A., St. Paul Seminary, 1950; M.A., St. Louis University, 1954; Ph.D., 1962; S.T.L., International Marian Research Institute, 1978; S.T.D., 1983.

Brockman, Robert A. (1984), *Mechanical Engineering*, Associate Professor—B.S.M.E., Carnegie-Mellon University, 1973; M.M.E., University of Dayton, 1974; Ph.D., 1979.

Bruce, Essie L. (1966), *Library*, Associate Professor—B.A., Philander Smith College, 1943; B.S.L.S., University of Illinois Library School, 1945.

Bruggeman, William A., S.M. (1977), *Director, Office of Special Projects*, Assistant Professor (Administrative)—B.S., B.A., University of Dayton, 1959.

Buckley, David M. (1968), *Library*, Associate Professor—B.A., Miami University, 1966; M.A.L.S., Western Michigan University, 1968; M.A., University of Dayton, 1975.

Bueche, Frederick J. (1961), *Physics*, Distinguished Professor at Large—B.S., University of Michigan, 1944; Ph.D., Cornell University, 1948.

Burky, Albert J. (1973), *Biology*, Associate Professor—B.A., Hartwick College, 1964; Ph.D., Syracuse University, 1969.

Burns, Rev. Norbert C., S.M. (1959), *Religious Studies*, Professor—B.A., University of Dayton, 1945; S.T.L., University of Fribourg, 1954; S.T.D., The Angelicum, 1955.

Burrows, Ron J. (1981), *Accounting*, Associate Professor—B.S., Northern Illinois University, 1965; M.S., 1968; Ph.D., Pennsylvania State University, 1980.

Butter, Eliot J. (1971), *Psychology*, Professor—B.A., Brooklyn College, 1965; M.A., 1969; Ph.D., University of Massachusetts, 1971.

Bylsma, Glenn W. (1975), *Medical Technology*, Clinical Professor—B.A., La Sierra College, 1950; M.D., Loma Linda University, 1954.

Cameron, Alex J. (1964), *English*, Associate Professor—A.B., University of Notre Dame, 1959; Ph.D., 1973.

Carlsen, Roger N. (1981), *Teacher Education*, Assistant Professor—B.S. Ed., Northern Illinois University, 1967; M.S. Ed., Chicago State University, 1972; Ed.D., Western Michigan University, 1979.

Carroll, Margaret R. (1972), *Medical Technology*, Clinical Assistant Professor—B.S., University of Dayton, 1945; M.T. (ASCP), Registry of Medical Technologists, 1946; M.A., Central Michigan University, 1975.

Casey, Anthony L. (1969), *Decision Sciences*, Assistant Professor—Ph.D., University of Havana, 1955; M.Ed., Wright State University, 1973; M.S., University of Dayton, 1975.

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Chartoff, Richard P. (1984), *Materials Engineering,* Professor—B.S., Case Institute of Technology, 1961; M.S., Princeton University, 1962; M.A., 1965; Ph.D., 1968.

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Davis, Frederick (1981), *Law,* Professor—A.B., Yale University, 1948; J.D., Cornell University, 1953; LL.M., Victoria University of Wellington, 1955.

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Dickinson, Kelvin H. (1979), *Law,* Associate Professor—B.A., Western Michigan University, 1965; LL.B., Harvard Law School, 1968.

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Ghosh, Jayabrata (1983), *Decision Sciences*, Assistant Professor—B.T., Indian Institute of Technology, 1977; M.S., University of Arkansas, 1981; Ph.D., 1983.

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Gould, Sam (1985), *Management*, Professor—B.S., Ohio University, 1965; M.B.A., University of Colorado, 1970; Ph.D., Michigan State University, 1975.

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Hanley, Thomas L. (1982), *Law Library,* Assistant Professor—A.B., Earlham College, 1970; J.D., Indiana University, 1973; M.S.L.S., Western Michigan University, 1975.

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Greason, Paul R. (1971), *Laser Specialist.*

Griffen, Charles W. (1979), *Associate Research Engineer*—B.S., Edinboro State College, 1953; B.S., Michigan State University, 1958; M.S., University of Massachusetts, 1971.

Grossman, Thomas E. (1978), *Assistant Research Chemist*—B.S., Wright State University, 1977.

Grove, David J. (1979), *Associate Research Programmer-Analyst*—B.S., Miami University, 1977; M.S., University of Dayton, 1979.

Gustafson, Steven C. (1976), *Research Scientist*—B.S., University of Minnesota, 1967; M.A., Duke University, 1969; Ph.D., 1974.

Guderley, Karl G. (1976), *Senior Research Scientist*—M.S., Institute of Technology, Dresden, 1934; Ph.D., 1938.

Haddox, Donald L. (1984), *Associate Research Engineer*—B.S., University of Louisiana, 1962; M.S., Air Force Institute of Technology, 1976.

Hall, Douglas L. (1977), *Associate Research Chemist*—B.S., Wright State University, 1977.

Hamilton, Dorna F. (1979), *Assistant Research Biologist*—B.S., Central State University, 1972.

Hanchak, Stephen J. (1963), *Professional Technologist*—A.M.E., University of Dayton, 1963.

Hardyal, Stevie Ann (1982), *Technical Editor*—B.A., Wright State University, 1972; M.A., Indiana University, 1973.

Harmer, Richard S. (1970), *Research Engineer*—B.S., University of Illinois, 1963; M.S., 1967; Ph.D., 1971.

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Hartman, George A., III (1981), *Associate Research Engineer*—B.S., University of Wisconsin, 1979; M.S., 1981.

Hartness, John T. (1968), *Associate Research Chemist*—B.T., University of Dayton, 1975.

Harvey, James A. (1984), *Research Scientist*—B.S., University of Denver, 1976; Ph.D., Virginia Polytechnic Institute, 1982.

Hecht, Judith N. (1973), *Technical Information Services Supervisor*—B.S., Alfred University, 1958; M.A., University of Dayton, 1977; M.S., University of Kentucky, 1978.

Hecht, Norman L. (1963), *Research Scientist*—B.S.Cer.E., Alfred University, 1960; M.S., 1968; Ph.D., 1972.

Held, Thomas W. (1981), *Associate Research Analyst*—B.S., Michigan State University, 1977; M.S., University of Cincinnati, 1979; M.S., 1980.

Hill, Kuei-Chien Chiang (1984), *Assistant Research Engineer*—B.S., National Taiwan University, 1981; M.S., Ohio State University, 1984.

Hoenigman, James R., S.M. (1974), *Research Physicist*—B.S., University of Dayton, 1963; M.S., Purdue University, 1974.

Holverstott, James C. (1954), *Chief Administrative Assistant*—A.E.E.T., University of Dayton, 1955.

Hopkins, David M. (1978), *Professional Technologist.*

Hovey, Peter W. (1980), *Associate Research Statistician*—B.S., University of Dayton, 1975; M.S., University of Kentucky, 1976; Ph.D., 1980.

Hovey, William J. (1953), *Senior Research Engineer*—B.E.E., University of Dayton, 1952; M.S., Ohio State University, 1967.

Hubbard, David C. (1982), *Associate Research Psychologist*—B.S., Brigham Young University, 1972; Ph.D., 1981.

Huff, Lloyd (1974), *Associate Director, Research Institute*—B.S.E.E., Purdue University, 1963; M.S.E.E., 1964; Ph.D., University of Southern California, 1969.

Hulsizer, Susan C. (1982), *Assistant Research Physicist*—B.S., Harvey Mudd College, 1982.

Hurley, Charles J., III (1962), *Chief Coatings Specialist.*

Iden, David J. (1971), *Senior Research Engineer*—B.S., Air Force Institute of Technology, 1963; M.S., 1964.

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Johnson, Paul E. (1973), *Associate Research Engineer*—B.S.M.E., Tri-State College, 1972; M.M.E., University of Dayton, 1973.

Kauffman, Robert E. (1979), *Associate Research Chemist*—B.S., Bowling Green University, 1976; M.S., Ohio State University, 1978.

Keller, John L. (1976), *Associate Research Meteorologist*—B.A., University of California, Los Angeles, 1971; M.S., 1975.

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Kim, Ran Y. (1974), *Research Engineer*—B.S., Seoul National University, 1957; M.S., 1960; Ph.D., Pennsylvania State University, 1971.

Kluesener, Matthew F. (1980), *Associate Research Engineer*—B.S.M.E., University of Cincinnati, 1976; M.S.M.E., 1979.

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Linder, Marion D. (1977), *Engineering Specialist.*

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Little, Gordon R. (1985), *Research Physicist*—B.S., Ohio State University, 1966; M.S., 1970; Ph.D., 1973.

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Mildrum, Herbert F., Jr. (1952), *Research Engineer*—B.E.E., University of Dayton, 1964; M.S.E.E., 1971.

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Quinn, John W. (1984), *Assistant Research Mathematician*—B.S., University of Dayton, 1980.

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Smith, Stephen R. (1976), *Associate Research Physicist*—B.S., Eastern Illinois University, 1970; M.S., Ohio University, 1975.

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Soni, Mohan L. (1978), *Research Engineer*—B.S., University of Jabalpur, India, 1969; M.S., Institute of Science, India, 1971; M.S., University of Texas, 1974; Ph.D., 1977.

Spanel, Claudette M. (1985), *Administrative Assistant, Contracts and Grants*—B.A., University of Dayton, 1981; J.D., Ohio State University, 1984.

Stenger, Gregory J. (1980), *Associate Research Engineer*—B.S.M.E., University of Cincinnati, 1979; M.S.M.E., 1979.

Strader, Edward A. (1966), *Professional Technologist.*

Stropki, Michael A. (1980), *Assistant Research Chemist*—B.S., University of Dayton, 1980.

Stubbs, Jack B. (1984), *Associate Research Physicist*—B.S., Miami University, 1981.

Stump, William J. (1983), *Assistant Research Programmer*—B.S., Wright State University, 1983.

Szmulowicz, Frank (1978), *Research Physicist*—B.S., Case Western Reserve University, 1971; M.S., 1973; Ph.D., 1976.

Talukder, Mostafa A. H. (1984), *Research Scientist*—B.S., Edward College, 1961; M.S., University of Ratshahi, 1963; Ph.D., Tokyo Institute of Technology, 1969.

Tan, Loon-Seng (1984), *Associate Research Chemist*—B.S., Harvey Mudd College, 1976; Ph.D., Indiana University, 1981.

Taylor, Ronald F. (1977), *Research Engineer*—A.B., Wilmington College, 1967; M.S., Wright State University, 1970; Ph.D., University of Dayton, 1979.

Thai, Van Chanh (1983), *Assistant Research Programmer*—B.S., Wright State University, 1983.

Thomas, Melvin L. (1984), *Associate Research Analyst*—B.A., Northern Arizona University, 1970; M.A., Trinity University, 1974.

Tomich, David H. (1983), *Assistant Research Physicist*—B.S., University of Akron, 1980; M.S., 1982.

Visbal, Miguel (1984), *Associate Research Engineer*—B.S., University Del Norte, 1975; M.S., Rutgers University, 1980; Ph.D., 1983.

Vissoc, Roger L. (1968), *Chief Coatings Technologist.*

Von Ohain, Hans J. P. (1969), *Senior Research Scientist*—Ph.D., University of Goettingen, 1935.

Walsh, David A. (1965), *Research Chemist*—B.S., University of Dayton, 1972.

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West, Blaine S. (1966), *Senior Research Engineer*—B.S., West Virginia University, 1960; M.S., 1962.

Whitford, Dale H. (1952), *Senior Research Engineer*—B.S., University of Cincinnati, 1951.

Wical, Thomas H. (1960), *Chief Elastomers Technologist.*

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Williams, Robert J. (1983), *Research Programmer.*

Wilt, Benjamin H. (1971), *Research Engineer*—B.M.E., Villanova University, 1965.

Wittberg, Thomas N. (1976), *Associate Research Physicist*—B.S., University of Dayton, 1976.

Wogoman, Lawrence A. (1962), *Facilities and Equipment Specialist.*

Wolf, James D. (1979), *Associate Research Scientist*—B.S., University of Dayton, 1979.

Wurst, John C. (1957), *Associate Director, Research Institute*—B.S., University of Dayton, 1957; M.S., 1968; Ph.D., University of Illinois, 1971.

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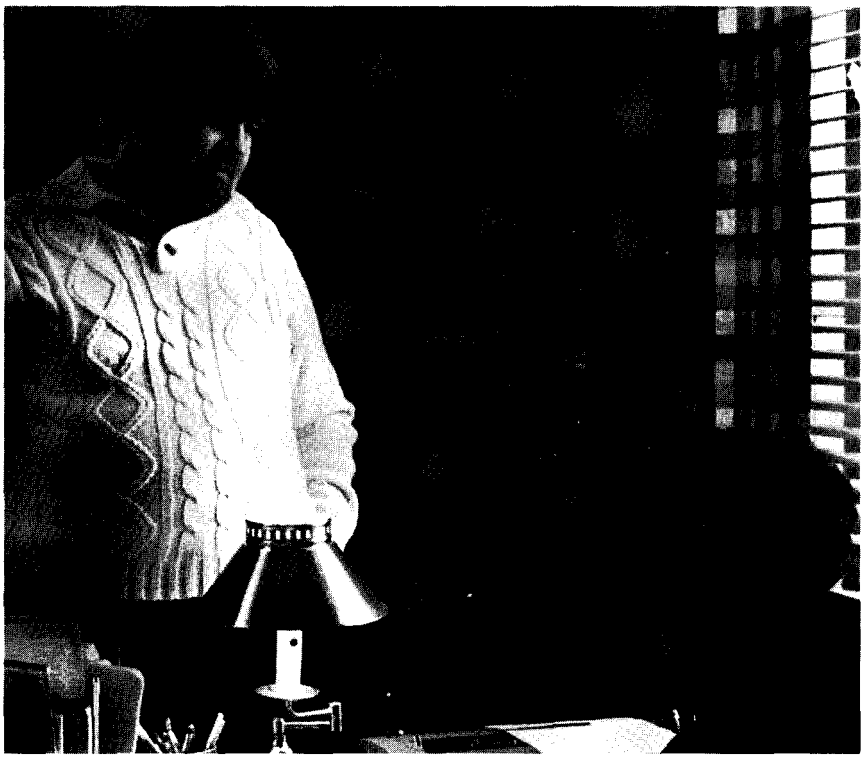

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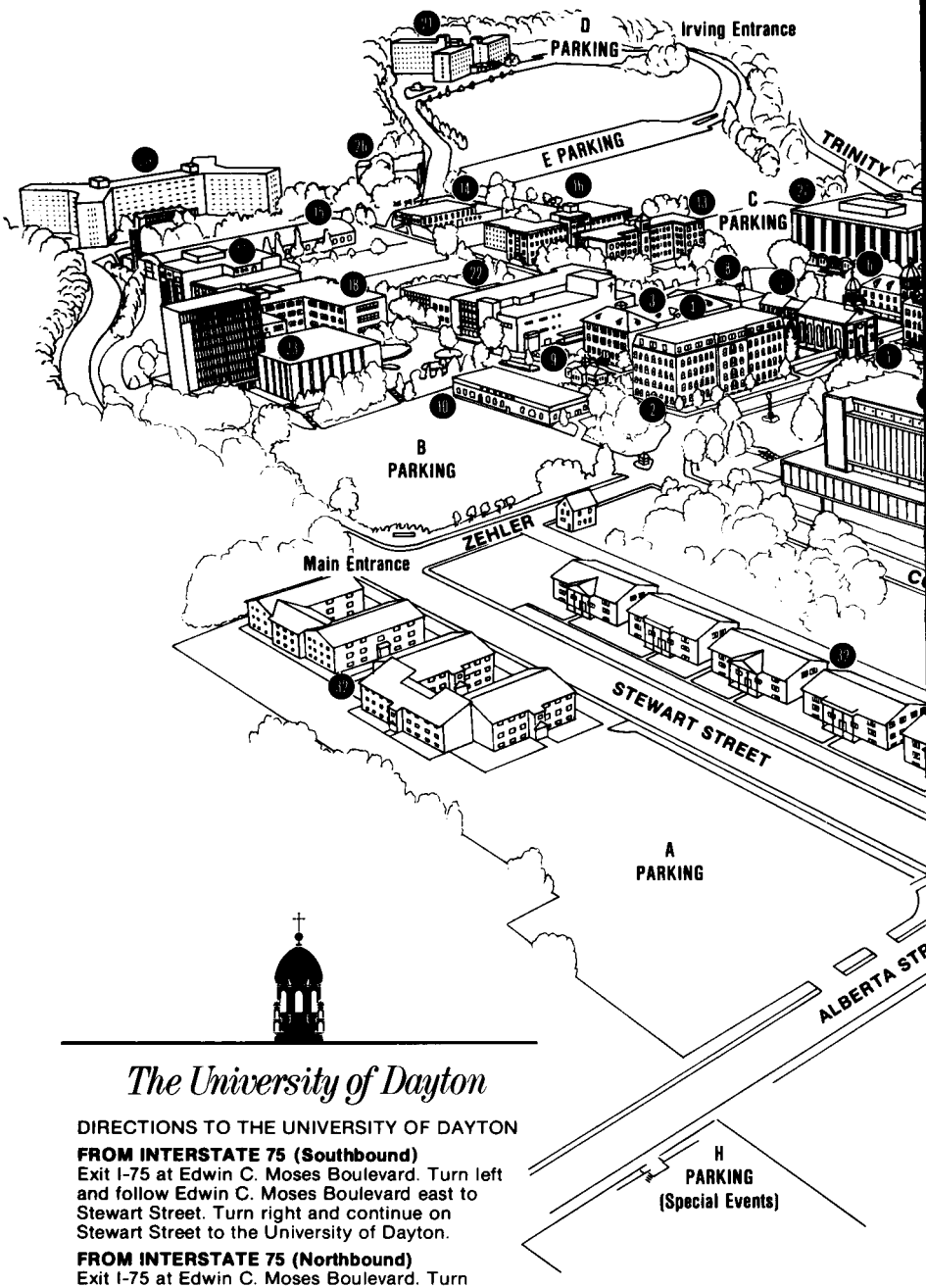

The University of Dayton

DIRECTIONS TO THE UNIVERSITY OF DAYTON

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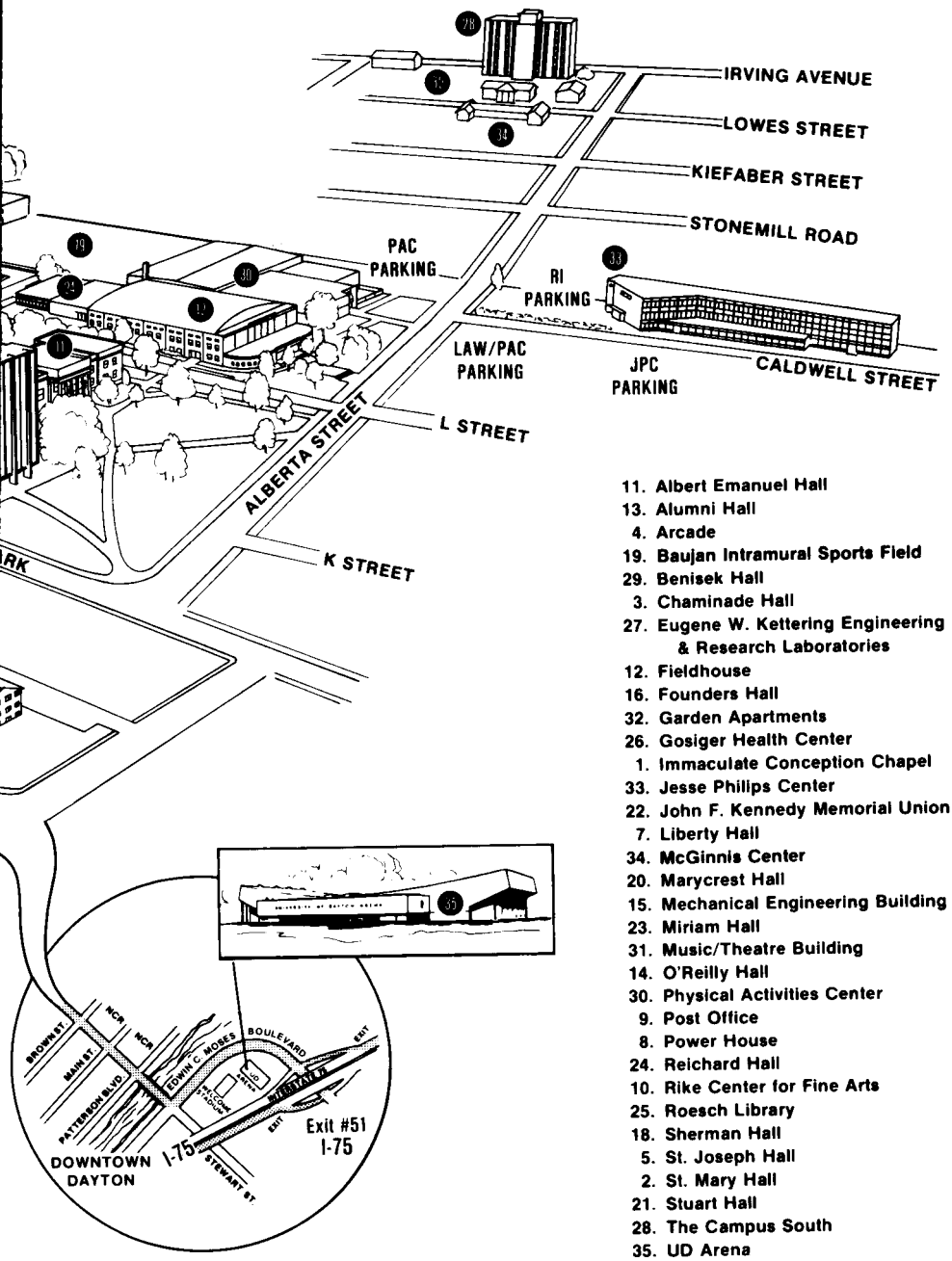
Exit I-75 at Edwin C. Moses Boulevard. Turn left and follow Edwin C. Moses Boulevard east to Stewart Street. Turn right and continue on Stewart Street to the University of Dayton.

FROM INTERSTATE 75 (Northbound)
Exit I-75 at Edwin C. Moses Boulevard. Turn right and follow Ediwn C. Moses Boulevard east to Stewart Street. Turn right and continue on Stewart Street to the University of Dayton.

UDP-1418

Campus Map



11. Albert Emanuel Hall
13. Alumni Hall
4. Arcade
19. Baujan Intramural Sports Field
29. Benisek Hall
3. Chaminade Hall
27. Eugene W. Kettering Engineering & Research Laboratories
12. Fieldhouse
16. Founders Hall
32. Garden Apartments
26. Gosiger Health Center
1. Immaculate Conception Chapel
33. Jesse Philips Center
22. John F. Kennedy Memorial Union
7. Liberty Hall
34. McGinnis Center
20. Marycrest Hall
15. Mechanical Engineering Building
23. Miriam Hall
31. Music/Theatre Building
14. O'Reilly Hall
30. Physical Activities Center
9. Post Office
8. Power House
24. Reichard Hall
10. Rike Center for Fine Arts
25. Roesch Library
18. Sherman Hall
5. St. Joseph Hall
2. St. Mary Hall
21. Stuart Hall
28. The Campus South
35. UD Arena
17. Wohlleben Hall
6. Zehler Hall

UNIVERSITY OF DAYTON GRADUATE AND UNDERGRADUATE ACADEMIC CODES

ACC Accounting
AEE Aerospace Engineering
AMS American Studies
ANT Anthropology
ART Fine Arts
ASI Interdisciplinary—Arts and Sciences

BAI Interdisciplinary—Business Administration
BET Bio-Engineering Technology
BIO Biology

CHM Chemistry
CIE Civil Engineering
CLA Classics (Languages)
CLS Clinical Laboratory Sciences
CLT Clinical Laboratory Technology
CME Chemical Engineering
COM Communication
COP Cooperative Education
CPS Computer Science
CPT Chemical Process Technology
CRJ Criminal Justice
CTT Cytotechnology

DEN Predentistry
DSC Decision Sciences

ECO Economics
EDA Educational Administration
EDC Counselor Education and Human Services
EDD Physical and Health Education
EDH Health Education
EDI Interdisciplinary—Education
EDP Physical Education
EDT Teacher Education
EES Exercise Science and Fitness Management
EET Electronic Engineering Technology
EGM Engineering Mechanics
EGR Engineering Service Courses
ELE Electrical Engineering
ENG English
ENI Interdisciplinary—Engineering
ENM Engineering Management
EOP Electro-Optics
EVT Environmental Engineering Technology

FAD Family Development
FIN Finance
FRN French

GEN General Studies
GEO Geology
GER German
GRK Greek

HEC Home Economics
HMS Humanities Studies
HST History

IET Industrial Engineering Technology
IND International Development Studies
INS International Studies
ISE Engineering Service Courses
ITA Italian

JRN Journalism

KMT Medical Technology 2+2

LAT Latin
LAW Law
LNG Languages

MAT Materials Engineering
MBA Graduate Business Administration
MCT Mechanical Engineering Technology
MED Premedicine
MEE Mechanical Engineering
MET Medical Technology
MGT Management
MIL Military Science
MIS Management Information Systems
MKT Marketing
MPA Public Administration
MSC Management Science
MTH Mathematics
MUS Music
MUT Music Therapy

NMT Nuclear Medicine Technology

PHL Philosophy
PHO Photography
PHY Physics
POL Political Science
PSC Physical Sciences
PSY Psychology
PVA Performing and Visual Arts

REL Religious Studies
RUS Russian

SDL Self-Directed Learning
SET Engineering Technology Service Courses
SOC Sociology
SPE Speech
SPN Spanish
SWK Social Work
SYA Systems Analysis

THR Theatre

UDI Interdisciplinary—University

WST Women's Studies